



Health & Safety

Service Engineers

Site CoSHH Assessment

Manual










Site Details -	Various Sites Various Site Addresses
Project No. –	As per individual job number









BUILDING SERVICES LTD.






[illegible]

Hazard Symbol Table and Management Notes






European Symbol	Meaning	European Symbol	Meaning	European Symbol	Meaning	European Symbol	Meaning	European Symbol	Meaning
	Warning / Irritant		Flammable		Harmful to the Environment / Aquatic Toxicity		Explosive		Serious Health Risk Sensitiser, carcinogen, mutagen or teratogen
	Compressed or Liquefied Gas		Oxidiser		Toxic / Danger		Corrosive		

COSHH Assessment Form			
Product	R410a Refrigerant	Product Picture	Hazard
Manufacturer	National Refrigerants Ltd, 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ		 
Composition	48.5 – 50.5% w/w Difluoromethane (R32) {F+;R12} {EINECS No. 200-839-4} 49.6 – 51.5% w/w Pentafluoroethane (R125) {EINECS No. 206-557-8}		
Workplace Exposure Limit	Pentafluoroethane – 8 hour TWA 1000ppm		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	<p>Time taken to charge refrigerant into system varies between – 30min – 2 hours</p>
Persons Exposed		JGR Engineering Personnel during transport, charging, decanting and service work	
Working Methods & Controls		Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R410a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R410a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>		<div>    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	






Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R410a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R410a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R404a Refrigerant	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ			
Composition	Contains the following components – 52% w/w Trifluoroethane (R143a) {F+;R12} {EINECS No. 206-996-5} 44% w/w Pentafluoroethane (R125) {EINECS No. 206-557-8} 4% w/w Tetrafluoroethane (R134a) {EINECS No. 212-377-0}			
Workplace Exposure Limit	Trifluoroethane – TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R404a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such as charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R404a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	







Accidental Release / Spillage		Fire Fighting					
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Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R404a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R407a Refrigerant	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ			
Composition	20% w/w Difluoromethane (R32) {F+;R12} 40% w/w Pentafluoroethane (R125) 40% w/w Tetrafluoroethane (R134a)			
Workplace Exposure Limit	Pentafluoroethane – 8hr TWA 1000ppm Tetrafluoroethane – 8hr TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R407a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R407a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			<div>    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	







Accidental Release / Spillage		Fire Fighting					
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Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R407a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R407c Refrigerant	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ			
Composition	21 - 25% w/w Difluoromethane (R32) {F+;R12} {EINECS No. 200-839-4} 23 - 27% w/w Pentafluoroethane (R125) {EINECS No. 206-557-8} 50 - 54% w/w Tetrafluoroethane (R134a) {EINECS No. 212-377-0}			
Workplace Exposure Limit	Pentafluoroethane – 8hr TWA 1000ppm Tetrafluoroethane – 8hr TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R407c, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R407c refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	




Accidental Release / Spillage		Fire Fighting					
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Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R407c should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R407f Refrigerant	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ		 	
Composition	40% w/w Tetrafluoroethane (R134a) {EINECS No. 212-377-0} 30% w/w Difluoromethane (R32) {F+;R12} {EINECS No.200-839-4} 30% w/w Pentafluoroethane (R125) {EINECS No. 206-557-8}			
Workplace Exposure Limit	Pentafluoroethane – 8hr TWA 1000ppm Tetrafluoroethane – 8hr TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R407f, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R407f refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	






Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R407f is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R407f should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R134a Refrigerant		 	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ			
Composition	1,1,2 Tetrafluoroethane EINECS No. – 212-377-0			
Workplace Exposure Limit	1,1,2 Tetrafluoroethane – 8hr TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R134a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R134a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	







Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R134a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R134a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R437a Refrigerant	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ			
Composition	77.8 - 80% w/w 1,1,1,2-Tetrafluoroethane (R134a){EINECS No. 212-377-0} 17.7 - 20% w/w Pentafluoroethane (R125) {EINECS No.206-557-8} 1.2 – 1.5% w/w Butane n- (R600) {F+;R12} {EINECS No. 203-448-7} 0.7% w/w n-Pentane (R601) {F+;R12 Xn;R65 R66 R67 N;R51-53} {EINECS No. 203-692-4}			
Workplace Exposure Limit	Tetrafluoroethane – TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30min – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R437a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R437a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			 <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	




Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R437a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R437a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form			
Product	R417a Refrigerant	Product Picture	Hazard
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ		
Composition	50% w/w 1,1,1,2-Tetrafluoroethane (R134a) {EINECS No. 212-377-0} 46.6% w/w Pentafluoroethane (R125) {EINECS No.206-557-8} 3.4% w/w Butane n- (R600) {F+;R12} {EINECS No. 203-448-7}		
Workplace Exposure Limit	Tetrafluoroethane – TWA 1000ppm Butane – TWA 600ppm STEL 750ppm		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	<p>Time taken to charge refrigerant into system varies between – 30mins – 2 hours</p>
Persons Exposed			
JGR Engineering Personnel during transport, charging, decanting and service work			
Working Methods & Controls		Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R417a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R417a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>		<div>    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	




Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R417a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R417a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R449a Refrigerant	Product Picture	Hazard Symbols	
Manufacturer	A-Gas (UK) Ltd, Banyard Road, Portbury West Bristol BS20 7XH		 	
Composition	17.7 - 20% Pentafluoroethane EINECS No. 206-557-8 (CAS No. 354-33-6) 19.34% 2,3,3,3-Tetrafluoroethane EINECS No. 468-710-7 (CAS No. 754-12-1) 21.96 Norflurane EINECS No. 212-377-0 (CAS No. 811-97-2) 40.73% Difluoromethane EINECS No. 200-839-4 (CAS No. 75-10-5)			
Workplace Exposure Limit	Norflurane – TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR engineering personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R449a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R449a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	






Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R449a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Carbonyl Difluoride. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R449a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R448a Refrigerant	Product Picture	Hazard	
Manufacturer	Honeywell Fluorine Products, Europe B.V., Laarderhoogtweg 18, 1101 EA Amsterdam, Netherlands Emergency Contact No. - +1-703-527-3887 (transport) +1-303-389-1414 (medical)			
Composition	Contains the following components – 26% Difluoromethane EINECS No. 200-839-4 CAS No. 75-10-5 26% Pentafluoroethane EINECS No. 206-557-8 CAS No. 354-33-6 21% Norfluoroethane EINECS No. 212-377-0 CAS No. 811-97-2 20% 2,3,3,3 Tetrafluoroethane-1-ene EINECS No 468-710-7 CAS No 811-97-2 7% Trans-1,3,3,3-Tetrafluoroprop-1-ene EINECS No 471-480-0 CAS No 29118-24-9			
Workplace Exposure Limit	Difluoromethane – 2.200mg/m ³ / 1.000ppm Pentafluoroethane - 1.000ppm Norfluoroethane - 1.000ppm 2,3,3,3 Tetrafluoroethane-1-ene - 500ppm Trans-1,3,3,3-Tetrafluoroprop-1-ene - 800ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems. Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30min – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases When working with R448a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier Keep cylinder valves clean and free from contaminants particularly oil and water Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly Refrigerants only to be used in a well-ventilated areas and away from naked flames and other sources of ignition Never overfill cylinders or systems with refrigerant When reclaiming R448a refrigerant, ensure that ONLY suitable reclaim cylinders are used In case of fire and / or explosion do not breathe fumes			 <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes Ensure adequate ventilation May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	




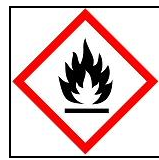



Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R448a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Halogenated compounds Carbonyl Fluoride, Hydrogen Fluoride, Carbon oxides. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure and move to fresh air. Where required, lie casualty down. Keep warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R448a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R437a Refrigerant	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ			
Composition	77.8 - 80% w/w 1,1,1,2-Tetrafluoroethane (R134a){EINECS No. 212-377-0} 17.7 - 20% w/w Pentafluoroethane (R125) {EINECS No.206-557-8} 1.2 – 1.5% w/w Butane n- (R600) {F+;R12} {EINECS No. 203-448-7} 0.7% w/w n-Pentane (R601) {F+;R12 Xn;R65 R66 R67 N;R51-53} {EINECS No. 203-692-4}			
Workplace Exposure Limit	Tetrafluoroethane – TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mis – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R437a, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R437a refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			 <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	








Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R437a is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R437a should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R422d Refrigerant	Product Picture	Hazard Symbols	
Manufacturer	National Refrigerants Ltd, 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ Emergency Tel – 01865 407333			
Composition	64 - 66% Pentafluoroethane EINECS No. 206-557-8 (CAS No. 354-33-6) 30.5 – 32.5% 1,1,1,2 -Tetrafluoroethane EINECS No. 212-377-0 (CAS No. 811-97-2) 3.0 – 3.5% Isobutene EINECS No. 200-857-2 (CAS No. 75-28-5)			
Workplace Exposure Limit	1,1,2 Tetrafluoroethane – 8hr TWA 1000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30min – 2 hours	JGR engineering personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R422d, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R422d refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	








Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant, evacuate personnel / avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R422d is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Carbonyl fluoride. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R422d should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R290 – Refrigerant Grade Propane (Hydrocarbon Refrigerant Aerosol)	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ		  	
Composition	Propane (R290) 100% EINECS No. 200-827-2 CAS Nr 74-98-6			
Workplace Exposure Limit	Propane (R290) 8hr TWA 2500ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases and only those holding C&G 6187 Hydrocarbons Certificate, can work on systems containing Hydrocarbons refrigerant gases</p>		Stored in 500ml bottles	Time taken to charge refrigerant into system varies between – 30mins – 1 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R290, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Open cylinder valves slowly to prevent shock pressure and beware of static charges, which may build up sufficiently to ignite fuel gas.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines are serviced, maintained & inspected regularly</p> <p>Only to be used in a well-ventilated areas</p> <p>As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes.</p> <p>2kg Dry Powder Fire Extinguisher to be on hand at all times when gas is being use.</p>			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers,</p>	







Accidental Release / Spillage		Fire Fighting					
If safe to do so – <ul style="list-style-type: none">Try to stop release and evacuate area and ensure adequate air ventilationExtinguish all flames and eliminate all ignition sources Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, as it can asphyxiate in high concentrations. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R290 is extremely flammable and exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous / explosive re-ignition may occur. If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Use the cylinder until empty. Do not dispose of any non-empty cylinders; empty cylinders have residual vapour that is flammable and explosive. Cylinders should be emptied & returned to a hazardous waste collection point. Do not puncture even when empty. Do not discharge gas into any place where its accumulation could be dangerous, such as confined spaces					
First Aid		Safe Handling & Storage					
Skin – Thaw affected areas with water. Remove contaminated clothing. Caution - Clothing may adhere to the skin in the case of freeze burns. After contact with skin, wash immediately with plenty of water. If irritation or blistering occurs, obtain medical attention. Eyes – Immediately irrigate with eyewash solution or clean water, holding the eyelids apart for at least 15 minutes. Obtain immediate medical attention. Inhalation – Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention. Ingestion – Unlikely route of exposure. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200 -300 ml (half a pint) water to drink. Obtain immediate medical attention.		Handling <ul style="list-style-type: none">Keep away from heat and ignition sources (including static discharges) and never smoke while handling productEnsure adequate ventilation in all work areasNever attempt to drag, slide or lift cylinder by its valve or cap Storage <ul style="list-style-type: none">R290 should only be stored in manufacturers/suppliers cylinder with valves tightly closed when not in useKept cylinders upright and stable in a cool (below 50°C), well-ventilated area away from heat sources and oxidants and safeguard generally against damageSecure within a secure cage / compound with adequate ventilation and warning notices when not in useSegregated from oxidant gases and other oxidants in store Transport <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R600A – Refrigerant Grade Isobutane (Hydrocarbon Refrigerant Aerosol)	Product Picture	Hazard	
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ		  	
Composition	Isobutane (R600A) 100% EINECS No. 200-857-2 CAS Nr 75-28-5			
Workplace Exposure Limit	Isobutane - LTEL: 600ppm; STEL: 750ppm (EH40/2002)			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases and only those holding C&G 6187 Hydrocarbons Certificate, can work on systems containing Hydrocarbons refrigerant gases</p>		Stored in 500ml bottles	Time taken to charge refrigerant into system varies between – 30mins – 1 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R600A, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Open cylinder valves slowly to prevent shock pressure and beware of static charges, which may build up sufficiently to ignite fuel gas.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines are serviced, maintained & inspected regularly</p> <p>Only to be used in a well-ventilated areas</p> <p>As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes.</p> <p>2kg Dry Powder Fire Extinguisher to be on hand at all times when gas is being use.</p>			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers,</p>	


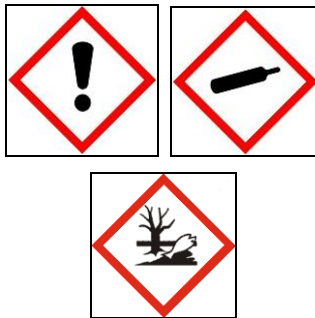

Accidental Release / Spillage		Fire Fighting							
<p>If safe to do so –</p> <ul style="list-style-type: none">Try to stop release and evacuate area and ensure adequate air ventilationExtinguish all flames and eliminate all ignition sources <p>Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, as it can asphyxiate in high concentrations.</p> <p>Prevent from entering into soil, ditches, sewers, waterways and/or groundwater</p> <p>Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe</p>		<p>R600A is extremely flammable and exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode</p> <p>If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous / explosive re-ignition may occur.</p> <p>If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health.</p> <p>Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>							
		Exposure Monitoring & Health Surveillance							
		<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		Disposal					
				<p>Use the cylinder until empty. Do not dispose of any non-empty cylinders; empty cylinders have residual vapour that is flammable and explosive.</p> <p>Cylinders should be emptied & returned to a hazardous waste collection point. Do not puncture even when empty.</p> <p>Do not discharge gas into any place where its accumulation could be dangerous, such as confined spaces</p>					
First Aid		Safe Handling & Storage							
<p>Skin – Thaw affected areas with water. Remove contaminated clothing.</p> <p>Caution - Clothing may adhere to the skin in the case of freeze burns. After contact with skin, wash immediately with plenty of water. If irritation or blistering occurs, obtain medical attention.</p> <p>Eyes – Immediately irrigate with eyewash solution or clean water, holding the eyelids apart for at least 15 minutes. Obtain immediate medical attention.</p> <p>Inhalation – Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention.</p> <p>Ingestion – Unlikely route of exposure. Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200 -300 ml (half a pint) water to drink. Obtain immediate medical attention.</p>		<p>Handling</p> <ul style="list-style-type: none">Keep away from heat and ignition sources (including static discharges) and never smoke while handling productEnsure adequate ventilation in all work areasNever attempt to drag, slide or lift cylinder by its valve or cap <p>Storage</p> <ul style="list-style-type: none">R600A should only be stored in manufacturers/suppliers cylinder with valves tightly closed when not in useKept cylinders upright and stable in a cool (below 50°c), well-ventilated area away from heat sources and oxidants and safeguard generally against damageSecure within a secure cage / compound with adequate ventilation and warning notices when not in useSegregated from oxidant gases and other oxidants in store <p>Transport</p> <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires							
		Assessment Rating Details							
		Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
		Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	R32 Refrigerant	Product Picture	Hazard	
Manufacturer	A-Gas (UK) Ltd, Banyard Road, Portbury, West Bristol, BS20 7XH Emergency Contact – 01275 376600		  	
Composition	R32 Difluoromethane CAS No. 75-10-5 EINECS No. 200-839-4			
Workplace Exposure Limit	Difluoromethane – Temporary Emergency Exposure Limit (TEEL) TEEL-1 3,000ppm TEEL-2 6,600ppm TEEL-3 39,000ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into Air Conditioning systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	Time taken to charge refrigerant into system varies between – 30mins – 2 hours	JGR Engineering Personnel during transport, charging, decanting and service work
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R32, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Refrigerant only to be used in a well-ventilated areas and eliminate all sources of ignition within 3m of the system and associated service equipment</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R32 refrigerant, ensure that ONLY suitable reclaim cylinders are used</p>			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety goggles - BS EN 166 Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation - May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	







Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns. If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R32 is flammable and can easily ignited by heat, sparks or flames If involved in a fire DO NOT extinguish the fire unless the supply can be safely shut off as an explosive re-ignition may occur Move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions. DO NOT use Water Jet Exposing the cylinder to fire may cause a rise in pressure in the cylinder, causing the cylinder to rupture / explode If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon Monoxide, Carbon Dioxide and Hydrogen Fluoride. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment or where its accumulation could be dangerous All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with soap and lukewarm water (not hot water) for at least 15mins and obtain medical assistance DO NOT apply hot water or radiant heat Eyes – Hold eyelids apart and flush eyes with plenty of eye wash or cool water for at least 15 minutes and obtain medical assistance DO NOT allow patient to rub the eyes, tightly shut eyes Inhalation – Remove from exposure, if safe to do so, and move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary by trained persons. Get medical attention. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure		Handling <ul style="list-style-type: none">NEVER transfer R32 from one cylinder to anotherEnsure adequate ventilation in all work areasWhere required, use cylinder trolley to transports cylinders. Never attempt to drag or lift cylinder by the valveAvoid breathing vapours or mist. Or contact with the skin, eyes and clothing.Vapours are heavier than air and may spread along the floor. Storage <ul style="list-style-type: none">R32 should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in useKept cylinders upright and stable, away from heat, hot surfaces, sparks and open flames and other heat sources and out of direct sunlight in a cool (below 40°C) and safeguard generally against damage.Secure within external secure cage / compound with adequate ventilation & warning notices when not in use Transport <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form			
Product	R744 – Carbon Dioxide	Product Picture	Hazard
Manufacturer	A-Gas (UK) Ltd, Banyard Road, Portbury West, Bristol, BS20 7XH Emergency Telephone No. 0800 111 333		 
Composition	Carbon Dioxide 100% EINECS No. 204-696-9 CAS No. 124-38-9		
Workplace Exposure Limit	Carbon Dioxide - LTEL: 5000ppm; STEL: 15000ppm (EH40/2005)		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 6187-31 Service & Maintenance of Co2 Refrigeration Systems Certificate or Cubo2 Smart Condensing Unit Training Course , can work on systems containing R744 refrigerant gases</p>		Stored in 11kg cylinders	<p>Time taken to charge refrigerant into system varies between – 30mis – 1 hours</p> <p>JGR Engineering Personnel during transport, charging, decanting and service work</p>
Working Methods & Controls		Personal Protective Equipment	
<p>Oxygen detectors should be used when gases may be released</p> <p>Only competent trained engineers, holding C&G 6187-31 Service & Maintenance of Co2 Refrigeration Systems Certificate or Cubo2 Smart Condensing Unit Training Course, can work on systems containing R744 refrigerant gases</p> <p>When working with R744, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments</p> <p>Inspect cylinder valves / valve guards for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such as charging lines are serviced, maintained & inspected regularly</p> <p>Protect containers from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the container contents</p> <p>Only to be used in a well-ventilated areas – Where required use suitable local extraction, to ensure that the defined occupational exposure limit is not exceeded.</p> <p>Secure cylinders in an upright position at all times and ensure cylinder has been secured against either a wall or bench or placed in a container stand and is ready for use</p> <p>As with all High Pressure gases, avoid risk of high pressure being directed at the skin and eyes.</p> <p>Never attempt to transfer gases from one container to another</p>		<div>    </div> <p>When handling / working with R744, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers,</p>	







Accidental Release / Spillage		Fire Fighting					
If safe to do so – Try to stop release and evacuate area and ensure adequate air ventilation Prevent from entering any place where its accumulation could be dangerous, such as basements and confined spaces, as it can asphyxiate in high concentrations. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R744 is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode - If involved in a fire, if possible stop flow of product and move away from cylinder and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions Advise Fire Fighters / Emergency Services that there are pressurised cylinders on site. Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Can be discharged in to the atmosphere, where there is adequate ventilation. Discharge of large quantities should be avoided. Discharge of gas should be avoided into any place where its accumulation could be dangerous, such as confined spaces All empty cylinders MUST be returned to the supplier or manufacturer. Use the cylinder until empty and do not puncture cylinder even when empty					
First Aid		Safe Handling & Storage					
Skin – Contact with evaporating liquid may cause frostbite or freezing of skin. Remove contaminated clothing, if able. Bathe (do not rub) area with plenty of water for at least 15 minutes . Obtain medical attention, if symptoms persist Eyes – Irrigate with large amounts of eyewash solution or clean lukewarm water, holding the eyelids apart for at least 15 minutes . Remove contact lenses, if present and easy to do. Obtain immediate medical attention. If medical assistance is not immediately available, flush an additional 15 minutes. Inhalation – In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation - Remove patient from exposure, if safe to do so or wearing self-contained breathing apparatus. Keep warm and at rest. Apply artificial respiration if breathing has ceased. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention Low concentrations of CO ² cause increased respiration and headache. Ingestion – Unlikely route of exposure. This product is a gas at normal temperature and pressure		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas - Provide sufficient air exchange and /or exhaust in work rooms▪ Avoid gas coming in contact with the skin and eyes▪ Never attempt to drag, slide or roll cylinders on its side.▪ Where required use cylinder trolley to transports cylinders and never attempt to lift cylinder by its valve or cap▪ Close container valve after each use and when empty, even if still connected to equipment▪ Depressurisation of liquid CO2 below approximately 5 bar can create solid CO2 which may block protective devices, pipework and create dry-ice within containers. Storage <ul style="list-style-type: none">▪ R744 should only be stored in manufacturers/suppliers cylinder with valves tightly closed when not in use▪ Kept cylinders upright and stable in a cool (below 50°C), well-ventilated area and safeguard generally against damage▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form			
Product	R22 Refrigerant – NO LONGER ABLE TO ADD TO SYSTEMS	Product Picture	Hazard
Manufacturer	National Refrigerants Ltd , 4 Watling Close, Sketchley Meadows Business Park Hinckley, LE10 3EZ		
Composition	R22 Chlorodifluoromethane 100% EINECS No. – 200-871-9		
Workplace Exposure Limit	R22 Chlorodifluoromethane – 8Hr TWA 1000ppm		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>The refrigerant is used in Commercial / Industrial Systems and is pumped under pressure in a closed system, using suitable pressure gauges, high pressure hoses and connection nozzles, into refrigeration systems.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Cylinder sizes range from 9kg – 50kg	<p>Time taken to charge refrigerant into system varies between – 30mins – 2 hours</p> <p>JGR Engineering Personnel during transport, charging, decanting and service work</p>
Working Methods & Controls		Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with R22, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over</p> <p>Only use specified equipment which is suitable for this product, supply pressure & temperature and ensure all equipment, such charging lines and appropriate recovery pumps and recovery cylinders (when recovering), are serviced, maintained & inspected regularly</p> <p>Refrigerants only to be used in a well-ventilated areas</p> <p>Never overfill cylinders or systems with refrigerant</p> <p>When reclaiming R22 refrigerant, ensure that ONLY suitable reclaim cylinders are used</p> <p>In case of fire and / or explosion do not breathe fumes</p>		 <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing <p>Avoid contact with skin or eyes</p> <p>Ensure adequate ventilation</p> <p>May require half mask or forced air breathing apparatus if substance is decomposed by high temperature (i.e. brazing) or working within poorly ventilated areas</p>	


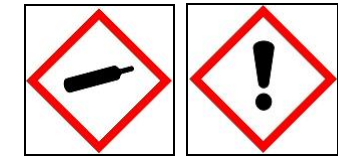

Accidental Release / Spillage		Fire Fighting					
If a leak should occur from either a cylinders or plant avoid contact with skin and eyes to prevent cold burns If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation For heavy vapours, prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		R22 is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions If the refrigerant is involved in a fire, hazardous thermal decomposition products may form. They are: Carbon oxides, Hydrogen Fluoride, Fluorinated compounds. Exposure to decomposition products may be hazardous to health. Advise Fire Fighters / Emergency Services that there are pressurised cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Refrigerant should NOT be discharged to atmosphere / environment, Dangerous to the environment & the ozone layer All waste refrigerants should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable reclaim cylinder and passed to a specialist organisation for disposal. All empty cylinders MUST be returned to the supplier or manufacturer.					
First Aid		Safe Handling & Storage					
Skin – Remove contaminated clothing and flush affected area with lukewarm water (not hot water) for at least 15mins and obtain medical assistance May cause redness / frostbite to the affected area Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes and obtain medical assistance May cause redness / frostbite or damage to the cornea Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and rest. Artificial respiration and/or oxygen may be necessary. Get medical attention. Misuse or intentional inhalation may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation are - Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, unconsciousness, irregular heartbeat, with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting or weakness, Narcosis. Ingestion - Ingestion is not considered a potential route of exposure General Advice - Never give anything by mouth to an unconscious person. When symptoms persist or in all cause of doubt seek medical advice		Handling <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Where required use cylinder trolley to transports cylinders & never attempt to drag or lift cylinder by its valve or cap▪ Avoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing.▪ Vapours are heavier than air and may spread along the floor.▪ Use a check valve or trap in the discharge line to prevent back flow into the cylinder. Storage <ul style="list-style-type: none">▪ R22 should only be stored in manufacturers/suppliers cylinders with valves tightly closed when not in use▪ Kept cylinders upright and stable out of direct sunlight in a cool (below 45°C) and safeguard generally against damage.▪ Secure within a secure cage / compound with adequate ventilation and warning notices when not in use Transport <ul style="list-style-type: none">▪ All vehicles must display the Compressed Gas symbol when transporting compressed gases▪ COSHH assessment to be held in vehicle▪ All cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle should have a secure solid bulkhead to protect the driver▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	Oxygen (for oxy-acetylene brazing)		 	
Manufacturer	Energas Ltd, Westmorland Street, Hull HU2 0HX			
Composition	Oxygen EINECS No. 231-956-9 100%			
Workplace Exposure Limit	None - No known toxicological effects from this product			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>Used with acetylene to provide heat source in oxy-acetylene brazing used to join copper tubing and/or components to form service pipework and/or equipment</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out oxy-acetylene brazing works</p>		Cylinder size 10ltrs	Time taken to carry out pressure / leak testing of systems using this product varies between – 30mins – 2 hours	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>SUPPORTS EXTREMELY RAPID BURING – Ignition may occur from low temperature ignition sources when in high concentration in the presence of any fuel substances.</p> <p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out oxy-acetylene brazing works</p> <p>When working with oxy-acetylene, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure cylinders are secured on a suitable cylinder trolley prior to being used</p> <p>Open cylinder valves slowly to prevent shock pressure and beware of static charges, which may build up sufficiently to ignite fuel gas</p> <p>Only use suitable specified equipment which is suitable for this product, supply pressure & temperature and ensure all oxy-acetylene equipment, such as hoses, torches & gauges, are serviced, maintained & inspected regularly</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes</p> <p>2kg Dry Powder Fire Extinguisher to be on hand at all times when gas is being use</p> <p>Only use in a well-ventilated areas</p>			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN 345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>May require half mask or forced air-breathing apparatus if substance is decomposed by high temperature (i.e. brazing) within poorly ventilated areas</p>	








Accidental Release / Spillage			Fire Fighting					
If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation Extinguish all flames and ignition sources Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe			Oxygen gas supports combustion and exposure to fire may also cause cylinder to rupture/explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions Use of self-contained breathing apparatus may be required in confined spaces Advise Fire Brigade / Emergency Services of Pressurised Containers					
Exposure Monitoring & Health Surveillance		Disposal						
No known adverse environmental effects. Do not smoke while handling product No Health Surveillance required		Do not discharge into any place where its accumulation could be dangerous, such as confined spaces When waste gases are discharged, gas should be flared off SLOWLY to atmosphere in a well-ventilated area. Empty cylinders must be returned to the supplier or manufacturer						
First Aid		Safe Handling & Storage						
Skin – Not considered a potential route of exposure Eyes – Not considered a potential route of exposure Inhalation – Continuous inhalation of concentrations higher than 75% may cause nausea, dizziness, respiratory difficulties and convulsions Remove victim to an uncontaminated area and call a doctor / medical services, if required Ingestion - Ingestion is not considered a potential route of exposure		Handling <ul style="list-style-type: none">Ensure all cylinders, connections and working parts such as valves and fittings are free from oil and greaseKeep away from heat and ignition sources (including static discharges) and never smoke while handling productEnsure adequate ventilation in all work areasWhere required use cylinder trolley to transports cylinders & never attempt to drag, slide or lift cylinder by its valve or cap Storage <ul style="list-style-type: none">Oxygen should only be stored in manufacturers / suppliers cylinders with valves tightly closed when not in useKept cylinders upright and stable in a cool (below 50°C), well-ventilated area away from heat sources and oxidants and safeguard generally against damageSecure within a secure cage / compound with adequate ventilation and warning notices when not in useSegregated from flammable gases and other flammable materials in store Transport <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	

COSHH Assessment Form				
Product	Acetylene (Dissolved) (for oxy-acetylene brazing)		Hazard	
Manufacturer	Energas Ltd, Westmorland Street, Hull HU2 0HX		 	
Composition	Acetylene 100% CAS No. 000074-86-2 EINECS No. – 200-816-9			
Workplace Exposure Limit	None - No known toxicological effects from this product			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>Used with oxygen to provide heat source in oxy-acetylene brazing used to join copper tubing and/or components to form service pipework and/or equipment.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out oxy-acetylene brazing works</p>		Cylinder size 10ltrs	Time taken to carry out brazing works in which this product is used varies between 30mins – 2 hours	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>WARNING – Can form explosive mixtures with air. Acetylene is dissolved in the more harmful ‘Acetone’ which may be released if the cylinder is used to soon after storing / transporting horizontally</p> <p>To prevent acetone carry over, cylinders should be upright for at least 8hours after being horizontal</p> <p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out oxy-acetylene brazing works</p> <p>When working with oxy-acetylene, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure cylinders are secured on a suitable cylinder trolley prior to being used</p> <p>Open cylinder valves slowly to prevent shock pressure and beware of static charges, which may build up sufficiently to ignite fuel gas</p> <p>Only use suitable specified equipment which is suitable for this product, supply pressure & temperature and ensure all oxy-acetylene equipment, such as hoses, torches & gauges, are serviced, maintained & inspected regularly</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes</p> <p>2kg Dry Powder Fire Extinguisher to be on hand at all times when gas is being use</p>			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN 345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>If clothing becomes impregnated with acetylene, avoid all ignition sources & remove clothes and allow to ventilate for at least 1 hour</p> <p>May require half mask or forced air-breathing apparatus if substance is decomposed by high temperature (i.e. brazing) within poorly ventilated areas</p>	


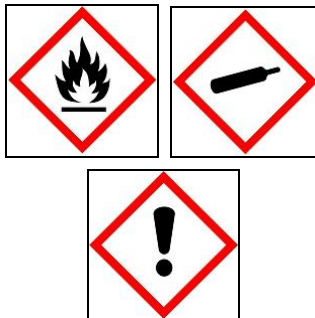

Accidental Release / Spillage		Fire Fighting					
If possible, try to shut off leak and stop release and evacuate area and ensure adequate air ventilation Extinguish all flames and ignition sources Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, sewers, basements Further guidance can be found on the substance MSDS		Acetylene is extremely flammable and exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous / explosive re-ignition may occur. Incomplete combustion may form Carbon Monoxide Advise Fire Fighters / Emergency Services that there are pressurised Acetylene cylinders and potential for harmful effects if the released gas is subjected to high temperatures Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling product No Health Surveillance required		Do not discharge into any place where its accumulation could form an explosive mixture or be dangerous, such as confined spaces Waste gases should be flared through a suitable burner with s flash back arrestor Empty cylinders must be returned to the supplier or manufacturer					
First Aid		Safe Handling & Storage					
Skin – Not considered a potential route of exposure Eyes – Not considered a potential route of exposure Inhalation – In low concentrations may cause narcotic effects, symptoms may include dizziness, headaches nausea and loss of coordination. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. Remove victim to fresh air wearing a self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stops. Ingestion - Ingestion is not considered a potential route of exposure		Handling <ul style="list-style-type: none">Keep away from heat and ignition sources (including static discharges) and never smoke while handling productEnsure adequate ventilation in all work areasWhere required use cylinder trolley to transports cylinders & never attempt to drag, slide or lift cylinder by its valve or cap Storage <ul style="list-style-type: none">Acetylene should only be stored in manufacturers / suppliers cylinders with valves tightly closed when not in useKept cylinders upright and stable in a cool (below 50°C), well-ventilated area away from heat sources and oxidants and safeguard generally against damageSecure within a secure cage / compound with adequate ventilation and warning notices when not in useSegregated from oxidant gases and other oxidants in store Transport <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	Nitrogen (Oxygen Free)		Hazard	
Manufacturer	Energas Ltd, Westmorland Street, Hull HU2 0HX			
Composition	Nitrogen EINECS No. 231-783-9 100%			
Workplace Exposure Limit	None - No known toxicological effects from this product			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>Nitrogen (Oxygen Free) is a compressed gas (100% Nitrogen) which is non-flammable, non-toxic and safe for the environment</p> <p>Used as an inert medium to pressurise service pipework to undertake high pressure testing, also used at low pressure at low discharge rates to bleed through pipework past joints during brazing, to exclude oxygen and there by prevent scale forming</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can use Nitrogen (Oxygen Free) on systems containing refrigerant gases.</p>		Cylinder size 19kg	Time taken to carry out pressure / leak testing of systems using this product varies between – 30mins – 2 hours	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases.</p> <p>When working with Nitrogen (Oxygen Free), engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>Keep cylinder valves clean and free from contaminants particularly oil and water.</p> <p>Ensure all cylinders are secured or in a stable position, using a suitable cylinder trolley or by securing cylinder to a solid structure to protect cylinders from toppling over.</p> <p>Only use properly specified equipment which is suitable for this product, supply pressure & temperature</p> <p>Open valves slowly to prevent shock pressure</p> <p>Only use in a well-ventilated areas</p> <p>As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes</p>			 <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN 345 	





Accidental Release / Spillage		Fire Fighting						
There are no known adverse environmental effects from accidental release Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, as it can asphyxiate in high concentrations. Try to stop release and evacuate area and ensure adequate air ventilation Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe		Nitrogen is non-flammable, however exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions Use of self-contained breathing apparatus may be required in confined spaces Advise Fire Brigade / Emergency Services of Pressurised Containers						
Exposure Monitoring & Health Surveillance		Disposal						
No known adverse environmental effects. Do not smoke while handling product No Health Surveillance required		Do not discharge into any place where its accumulation could be dangerous, such as confined spaces When waste gases are discharged, gas should be flared off SLOWLY to atmosphere in a well-ventilated area. Empty cylinders must be returned to the supplier or manufacturer						
First Aid		Safe Handling & Storage						
Skin – Not considered a potential route of exposure Eyes – Not considered a potential route of exposure Inhalation – In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. Remove victim to fresh air wearing a self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stops. Ingestion - Ingestion is not considered a potential route of exposure		Handling <ul style="list-style-type: none">Avoid contact with the skin, eyes and clothing.Provide sufficient air exchange and /or exhaust in work roomsDo not drag, slide or roll cylindersWhere required use cylinder trolley to transports cylinders and never attempt to lift cylinder by its valve or cap. Storage <ul style="list-style-type: none">Nitrogen should only be stored in manufacturers / suppliers cylinders with valves tightly closed when not in useCylinders to be –<ul style="list-style-type: none">Kept upright and stable in a cool, well-ventilated area away from heat sources and safeguard generally against damageSecured within a secure cage / compound with adequate ventilation and warning notices Transport <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	

COSHH Assessment Form				
Product	MAPP Pro Gas		Hazard	
Manufacturer	National Refrigerants Ltd, 4 Watling Close, S		 	
Composition	Propene EINECS No. 204-062-1 75-100% Sobutane EINECS No 200-857-2 10-25%			
Workplace Exposure Limit	Suffocation (asphyxiation) hazard – if allowed to accumulate to a concentration that reduces oxygen below safe breathing levels. Exposure of the skin and eyes to liquefied gas can cause freeze burns as it evaporates rapidly. LC50/mouse/ 2 h : 680 mg/l LC50/rat/ 4 h: 658 mg/l			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
MAPP Pro gas cylinders are used in conjunction with MAPP Gas hand torch, to provide heat source in brazing used to join copper tubing and/or components to form service pipework and/or equipment Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out MAPP Gas brazing works		Cylinder size 453grams	Time taken to carry out brazing works in which this product is used varies between 30mins – 2 hours	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out MAPP Gas brazing works. When working with MAPP Gas, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Open cylinder valves slowly to prevent shock pressure and beware of static charges, which may build up sufficiently to ignite fuel gas. Only use suitable specified equipment which is suitable for this product, supply pressure & temperature and ensure all MAPP Gas equipment, such as cylinder and torches are serviced, maintained & inspected regularly. Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes. 2kg Dry Powder Fire Extinguisher to be on hand at all times when gas is being use.			   <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN 345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers,</p>	

Accidental Release / Spillage		Fire Fighting							
<p>If safe to do so –</p> <ul style="list-style-type: none">Try to stop release and evacuate area and ensure adequate air ventilationExtinguish all flames and eliminate all ignition sources <p>Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, as it can asphyxiate in high concentrations.</p> <p>Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe</p>		<p>MAPP Pro Gas is extremely flammable and exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode</p> <p>If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous / explosive re-ignition may occur.</p> <p>Advise Fire Fighters / Emergency Services that there are pressurised MAPP Pro Gas cylinders and potential for harmful effects if the released gas is subjected to high temperatures</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>							
Exposure Monitoring & Health Surveillance		Disposal							
<p>Should not be released into the environment.</p> <p>Do not smoke while handling product</p> <p>No Health Surveillance required while using this product</p>		<p>Use the cylinder until empty. Do not dispose of any non-empty cylinders, empty cylinders have residual vapour that is flammable and explosive.</p> <p>Cylinders should be emptied & returned to a hazardous waste collection point. Do not puncture even when empty.</p> <p>Do not discharge gas into any place where its accumulation could be dangerous, such as confined spaces</p>							
First Aid		Safe Handling & Storage							
<p>Skin – Take off all contaminated clothing immediately and wash with soap and water.</p> <p>If irritation develops and persists. If frostbite occurs immerse area in luke warm water (not hot water) and get medical assistance.</p> <p>Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do and get medical assistance.</p> <p>Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Call a physician or poison control centre immediately</p> <p>Ingestion - Ingestion is not considered a potential route of exposure</p>		<p>Handling</p> <ul style="list-style-type: none">Keep away from heat and ignition sources (including static discharges) and never smoke while handling productEnsure adequate ventilation in all work areasNever attempt to drag, slide or lift cylinder by its valve or cap <p>Storage</p> <ul style="list-style-type: none">MAPP Pro Gas should only be stored in manufacturers / suppliers cylinders with valves tightly closed when not in useKept cylinders upright and stable in a cool (below 50°C), well-ventilated area away from heat sources and oxidants and safeguard generally against damageSecure within a secure cage / compound with adequate ventilation and warning notices when not in useSegregated from oxidant gases and other oxidants in store <p>Transport</p> <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires							
Assessment Rating Details									
Level of Risk with Control Measures in place –				LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018	Review Date -		March 2020			


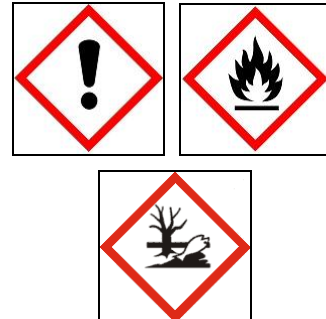

COSHH Assessment Form				
Product	Propane (Turbogas)			
Manufacturer	Energas Ltd, Westmorland Street, Hull HU2 0HX			
Composition	Propene EINECS No. 200-827-9 100%			
Workplace Exposure Limit	Propane TVL – TWA 2500 ppm			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>Propane (Turbogas) cylinders are used in conjunction with hand torch, to provide heat source in brazing used to join copper tubing and/or components to form service pipework and/or equipment</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out Propane (Turbogas) brazing works</p>		Cylinder size 453grams	Time taken to carry out brazing works in which this product is used varies between 30mins – 2 hours	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases and only those holding BRA level 3 / CITB Brazing Certificate, can work on systems containing refrigerant gases and carry out MAPP Gas brazing works.</p> <p>When working with Propane (Turbogas), engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Open cylinder valves slowly to prevent shock pressure and beware of static charges, which may build up sufficiently to ignite fuel gas.</p> <p>Only use suitable specified equipment which is suitable for this product, supply pressure & temperature and ensure all Propane (Turbogas) equipment, such as cylinder and torches are serviced, maintained & inspected regularly.</p> <p>Inspect cylinder valves for damage prior to use, label & return any damaged cylinders to the supplier</p> <p>As with all High Pressure gases / liquids, avoid risk of High Pressure being directed at skin / eyes.</p> <p>2kg Dry Powder Fire Extinguisher to be on hand at all times when gas is being use.</p>			 <p>When handling / working with, this product operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN 345 Overalls / Long sleeved clothing <p>Ensure adequate ventilation</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers,</p>	

Accidental Release / Spillage		Fire Fighting					
<p>If safe to do so –</p> <ul style="list-style-type: none">Try to stop release and evacuate area and ensure adequate air ventilationExtinguish all flames and eliminate all ignition sources <p>Prevent from entering any place where its accumulation could be dangerous, such as confined spaces, as it can asphyxiate in high concentrations.</p> <p>Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe</p>		<p>Propane (Turbogas) is extremely flammable and exposure to fire may cause a rise in pressure causing the cylinder to rupture / explode</p> <p>If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous / explosive re-ignition may occur.</p> <p>Advise Fire Fighters / Emergency Services that there are pressurised Propane Gas cylinders and potential for harmful effects if the released gas is subjected to high temperatures</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>					
Exposure Monitoring & Health Surveillance		Disposal					
<p>Should not be released into the environment.</p> <p>Do not smoke while handling product</p> <p>No Health Surveillance required while using this product</p>		<p>Use the cylinder until empty. Do not dispose of any non-empty cylinders; empty cylinders have residual vapour that is flammable and explosive.</p> <p>Cylinders should be emptied & returned to a hazardous waste collection point. Do not puncture even when empty.</p> <p>Do not discharge gas into any place where its accumulation could be dangerous, such as confined spaces</p>					
First Aid		Safe Handling & Storage					
<p>Skin – Take off all contaminated clothing immediately and wash with soap and water.</p> <p>If irritation develops and persists. If frostbite occurs immerse area in luke warm water (not hot water) and get medical assistance.</p> <p>Eyes – Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do and get medical assistance.</p> <p>Inhalation – Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Call a physician or poison control centre immediately</p> <p>Ingestion – Ingestion is not considered a potential route of exposure</p>		<p>Handling</p> <ul style="list-style-type: none">Keep away from heat and ignition sources (including static discharges) and never smoke while handling productEnsure adequate ventilation in all work areasNever attempt to drag, slide or lift cylinder by its valve or cap <p>Storage</p> <ul style="list-style-type: none">Propane (Turbogas) should only be stored in manufacturers/suppliers cylinder with valves tightly closed when not in useKept cylinders upright and stable in a cool (below 50°C), well-ventilated area away from heat sources and oxidants and safeguard generally against damageSecure within a secure cage / compound with adequate ventilation and warning notices when not in useSegregated from oxidant gases and other oxidants in store <p>Transport</p> <ul style="list-style-type: none">All vehicles must display the Compressed Gas symbol when transporting compressed gasesCOSHH assessment to be held in vehicleAll cylinders MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020




COSHH Assessment Form				
Product	Class O Armaflex	Product Picture	Hazard	
Manufacturer	Armacell UK Ltd, Mars Street, Oldham, Lancashire, OL9 6LY		No Hazard Identified on Armacell MSDS	
Composition	Based on synthetic rubber with additives for fire performance, flexibility and UV stabilisation			
Workplace Exposure Limit	None			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>Class O Armaflex is the flexible, closed cell, elastomeric, nitrile rubber insulation that offers reliable protection against condensation and effectively prevents energy loss.</p> <p>A highly efficient method of insulating refrigeration & air conditioning pipe work for frost protection, energy conservation and condensation control. Armaflex is dust free, fibre free and CFC free with an ODP of zero which means an environmentally friendly product.</p> <p>Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Each section 2m long	This product can be used throughout the duration of the works whilst using other Armaflex products	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p> <p>When working with Class O Armaflex, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>In case of fire do not breathe fumes</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When working with Class O Armaflex, operative are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing 	

Health & Safety


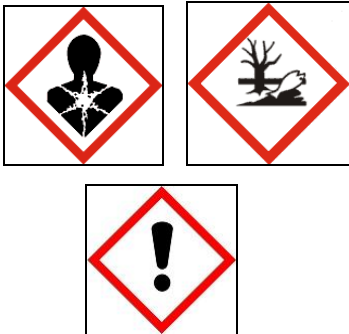



Accidental Release / Spillage			Fire Fighting			
Initial Action – Non Hazardous Clean-up Procedure – Solid non-hazardous material			Extinguishing Media – Water Spray or Dry Powder Hazards – Material is stable under normal conditions. In the event of a prolonged fire, as with all organic materials, there will be carbon dioxide / carbon monoxide and water evolved together with small quantities of other gases, dependent upon the heat of the fire			
Exposure Monitoring & Health Surveillance		Disposal				
None required due to its non-hazardous state No long term exposure hazards identified		Product can be disposed of as normal industrial waste Ecology Information – Degrades slowly in the presence of sunlight. Does not evolve gases which will damage the ozone layer, add to global warming, or contribute to ground level ozone pollution				
First Aid		Safe Handling & Storage				
Skin – Not Harmful Eyes – Under normal circumstances any dust created when the material is cut would not be airborne If any dust particles become lodged in the eye, hold eyelids apart and flush eyes with eye wash solution or plenty of clean water for at least 15 minutes and obtain medical assistance, if required Inhalation - Under normal circumstances any dust created when the material is cut would not be airborne Ingestion - If swallowed, DO NOT induce vomiting. In small quantities there should be no adverse effects. If large quantities have been swallowed, observe patient's condition for up to 48hrs. Seek medical attention in the unlikely event that the patient is not well		Handling Conditions <ul style="list-style-type: none">There are no special precautions required Storage Conditions <ul style="list-style-type: none">Can be stored in clean, dry rooms under normal conditions with respect to humidity (50 - 70 %) and surrounding temperature (0 °C - 35 °C) Transport Conditions <ul style="list-style-type: none">There are no special precautions required				
Assessment Rating Details						
Level of Risk with Control Measures in place –			LOW	X	MEDIUM	HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -	March 2020

COSHH Assessment Form			
Product	Armaflex 520 Adhesive	Product Picture	Hazard
Manufacturer	Armacell UK Ltd, Mars Street, Oldham, Lancashire, OL9 6LY		
Composition	Contains the following components – Hydrocarbons C6-C7 isoalkanes – EC no. 926-605-8 Percentage 30 – 50% Ethyl Acetate – CAS no. 141-78-6 EC no. 205-500-4 Percentage 10 – 30% Acetone – CAS no. 67-64-1 EC no. 200-662-2 Percentage 10 – 30% Butanone – CAS no. 78-93-3 EC no. 201-159-0 Percentage 3 – 5% Propan-2-ol – CAS no. 67-63-0 EC no. 200-661-7 Percentage 1 – 5% 4-tert-butylphenol – CAS no. 98-54-4 EC no. 202-679-0 Percentage 0.1 – 1% Colophony – CAS no. 8050-09-7 EC no. 232-475-7 Percentage 0.5 – 1%		
Workplace Exposure Limit			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
Armaflex 520 Adhesive is used as an adhesive on Class O armaflex is used to insulate copper pipework used in Commercial / Industrial Air Conditioning & Refrigeration Systems. Product can be used by all JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.		Container size varies between 0.5ltrs – 1ltr	This product can be used throughout the duration of the works whilst using other Armaflex products JGR Engineering Personnel
Working Methods & Controls		Personal Protective Equipment	
Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases. When working with Armaflex 520 Adhesive, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Ensure adequate ventilation in all work areas, as this product may cause drowsiness or dizziness Shake and stir well before use. Clean all surfaces and the surface of the Armaflex with Armaflex Cleaner Apply thinly to the places to be bonded with a brush or spatula. Where required press together with force during the contact adhesion time. Armaflex 520 Adhesive is highly flammable in liquid and vapour form		 When working with Armaflex 520 Adhesive, operative are to use the following equipment – <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing 	





Accidental Release / Spillage		Fire Fighting					
<p>Initial Action – Consider evacuation of the immediate area and ensure the use of PPE for clean up</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container</p> <p>Other Actions – Avoid run off into drains, sewers and watercourses.</p>		<p>Armaflex 520 Adhesive is highly flammable in liquid and vapour form</p> <p>If involved in a fire, if possible stop flow of product & move away from container & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions – Do not use high powered water jet</p> <p>In the event of fire carbon dioxide / carbon monoxide gases could be given off</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>					
Exposure Monitoring & Health Surveillance		Disposal					
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Do not discharge into the drains, surface waters, ground waters, soil or sub soil.</p> <p>Ecology Information – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p>					
First Aid		Safe Handling & Storage					
<p>Skin – Frequent or prolonged contact may irritate the skin and/or cause dermatitis</p> <p>Take off all contaminated clothing and wash with soap and warm water. If irritation develops and persists obtain medical assistance, if required.</p> <p>Eyes – Can cause serious damage if splashed in eyes</p> <p>Hold eyelids apart and flush eyes with eye wash solution or plenty of clean water for at least 15 minutes. Remove contact lenses, if present and easy to do, and obtain medical advice</p> <p>Inhalation – Remove from exposure to place with fresh air and lie down. Obtain medical assistance, if required</p> <p>Ingestion - If swallowed, DO NOT induce vomiting and obtain medical assistance.</p>		<p>Handling</p> <ul style="list-style-type: none">Keep away from heat and ignition sources, including sparks and never smoke while handling productEnsure adequate ventilation in all work areas and avoid breathing in vapoursRepeated exposure may cause skin dryness, crackingMay produce an allergic reactionWash hands with soap and warm water before breaks and after working with product. <p>Storage</p> <ul style="list-style-type: none">Quantity of Armaflex 520 Adhesive should be kept to a minimumProduct should only be stored in manufacturers / suppliers containers with lid tightly closed when not in useKept containers and stable in a cool (below 50°C), well-ventilated area away from heat sourcesSegregated and avoid contact with oxidising agents and strong acids, as it can react violentlyDo not store with explosive substances or spontaneously combusting substances <p>Transport</p> <ul style="list-style-type: none">COSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	Armaflex Cleaner	Product Picture	Hazard	
Manufacturer	Armacell UK Ltd, Mars Street, Oldham, Lancashire, OL9 6LY			
Composition	Contains the following components – Ethyl-acetate – CAS no - 141-78-6 EC no. 205-500-4 Percentage – 70 - 90% Butanone – CAS no – 78-93-3 EC no. 201-159-0 Percentage – 10 - 30% Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane – EC no. 926-605-8 Percentage – 5 - 10%			
Workplace Exposure Limit	Exposure limit UK – Ethyl-acetate – STEL - 400ml/m ³ TWA - 200ml/m ³ Butanone – STEL - 300ml/m ³ TWA - 200ml/m ³ Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane – STEL - 300ml/m ³ TWA - 200ml/m ³			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
Armaflex cleaner is used for removal of grease, oils and dirt from surfaces prior to the application of Armaflex adhesives or Armaflex paint. The cleaner can also be used to clean Armaflex adhesive from brushes and tools. Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.		Container size – 0.5lt - 1ltr	This product can be used throughout the duration of the works whilst using other Armaflex products	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases. When working with Armaflex Cleaner, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Ensure adequate ventilation in all work areas, as this product may cause drowsiness or dizziness Shake and stir well before use. Ensure all surfaces are free from debris and apply thinly to the places to be cleaned with a brush or spatula. Armaflex Cleaner is highly flammable			 When working with Armaflex Cleaner, operative are to use the following equipment – <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 388, BS EN 511 Safety glasses / goggles - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long sleeved clothing 	






Accidental Release / Spillage		Fire Fighting					
<p>Initial Action – Remove all possible sources of ignition. Consider evacuation of the immediate area and ensure the use of PPE for clean up</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container</p> <p>Other Actions – Avoid run off into drains, sewers and watercourses.</p>		<p>Armaflex Cleaner is highly flammable</p> <p>If involved in a fire, if possible stop flow of product & move away from container & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions – Do not use high powered water jet</p> <p>In the event of fire carbon dioxide / carbon monoxide gases could be given off</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>					
Exposure Monitoring & Health Surveillance		Disposal					
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Do not discharge into the drains, surface waters, ground waters, soil or sub soil.</p> <p>Ecology Information – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p>					
First Aid		Safe Handling & Storage					
<p>Skin – May be irritant to sensitive skin, frequent or prolonged contact may irritate the skin & cause dermatitis</p> <p>Remove contaminated clothing. Wash with soap and water. Get medical attention if irritation develops or persists.</p> <p>Eyes – Splashes or spray mist may cause irritation</p> <p>Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.</p> <p>Inhalation - Can cause distress e.g. nausea, headache & vomiting especially when used in restricted areas</p> <p>Remove to fresh air. Keep the patient warm and at rest. Give Nil by Mouth and seek medical attention</p> <p>Ingestion - If accidentally swallowed, DO NOT induce vomiting and obtain medical attention</p>		<p>Handling</p> <ul style="list-style-type: none">Keep away from heat and ignition sources, including sparks and never smoke while handling productEnsure adequate ventilation in all work areas and avoid breathing in vapoursRepeated exposure may cause skin dryness, crackingWash hands with soap and warm water before breaks and after working with product. <p>Storage</p> <ul style="list-style-type: none">Quantity of Armaflex Cleaner should be kept to a minimumProduct should only be stored in manufacturers / suppliers containers with lid tightly closed when not in useKept containers and stable in a cool (below 50°C), well-ventilated area away from direct sunlight and heat sources <p>Transport</p> <ul style="list-style-type: none">COSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form			
Product	Armafinish 99	Product Picture	Hazard
Manufacturer	Armacell UK Ltd, Mars Street, Oldham, Lancashire, OL9 6LY		
Composition	Contains the following components – Tris(methylphenyl) phosphate – CAS No -1330-78-5 >5% - <100% 1,2 Benzisothiazol-3(2H)-one – CAS 2634-33-5 <0.5%		
Workplace Exposure Limit	None		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>Armafinish 99 is a water-based coating applied to provide protection of Armaflex flexible thermal insulation materials against sunlight, UV radiation and chemical attack. The coating, when fully cured, maintains the flexibility, resistance to water vapour and fire performance of the Armaflex material.</p> <p>Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p>		Container size – 1ltr - 2.5ltrs	<p>This product can be used throughout the duration of the works whilst using other Armaflex products</p> <p>JGR Engineering Personnel</p>
Working Methods & Controls		Personal Protective Equipment	
<p>Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p> <p>When working with Armafinish 99, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure adequate ventilation in all work areas, as this product may cause drowsiness or dizziness</p> <p>Clean all surfaces and the surface of the Armaflex with Armaflex Cleaner</p> <p>Apply thinly with a brush and leave to dry</p> <p>Once dry, additional coats of Armafinish 99 can be applied to provide further protection</p>		<div>    </div> <p>When working with Armafinish 99, operative are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 374 Safety glasses - BS EN 166-349B Overalls / Long Sleeved Top 	







Accidental Release / Spillage			Fire Fighting			
<p>Initial Action – Clear immediate area and ensure the use of PPE for clean up</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container</p> <p>Other Actions – Avoid run off into drains, sewers and watercourses.</p>			<p>Extinguishing Media – Water Spray, Foam, Carbon Dioxide or Dry Powder</p> <p>Hazards – Material is stable under normal conditions. In the event of a prolonged fire, as with all organic materials, there will be carbon dioxide / carbon monoxide and water evolved together with small quantities of other gases, dependent upon the heat of the fire</p> <p>If involved in a fire, the following gasses may be released - Carbon Monoxide, Carbon Dioxide, Hydrogen, Phosphorus oxides</p>			
Exposure Monitoring & Health Surveillance		Disposal				
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Very toxic to aquatic life, with long lasting effects - Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. In case of entry into waterways, soil or drains, inform the responsible authorities.				
First Aid		Safe Handling & Storage				
<p>Skin – Frequent or prolonged contact may irritate the skin irritation and/or cause dermatitis Take off all contaminated clothing and wash with soap and warm water. If irritation develops and persists obtain medical assistance, if required.</p> <p>Eyes – Can cause serious damage if splashed in eyes Hold eyelids apart and flush eyes with eye wash solution or plenty of clean water for at least 15 minutes. Remove contact lenses, if present and easy to do, and obtain medical advice</p> <p>Inhalation - Remove from exposure to place with fresh air and lie down. Obtain medical assistance, if required</p> <p>Ingestion - If swallowed, DO NOT induce vomiting. Seek medical attention</p>		<p>Handling</p> <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product <p>Storage</p> <ul style="list-style-type: none">▪ Armafinish 99 should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in use▪ Store in a cool, well-ventilated area. Keep container tightly closed.▪ Kept container upright and stable and store in a cool dry ventilated area away from sources of ignition, heat and humidity▪ Keep away from oxidising agents <p>Transport</p> <ul style="list-style-type: none">▪ CoSHH assessment to be held in vehicle▪ All containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires				
Assessment Rating Details						
Level of Risk with Control Measures in place –			LOW	X	MEDIUM	HIGH
Assessor -	Trevor Foster	Date -	March 2018	Review Date -		March 2020

COSHH Assessment Form			
Product	Emkarate RL32 Refrigeration Oil	Product Picture	Hazard
Manufacturer	CPI Fluid Engineering (A Division of Lubrizol Corp)		No Hazard Identified on CPI Fluid Engineering MSDS
Composition	Based on synthetic rubber with additives for fire performance, flexibility and UV stabilisation		
Workplace Exposure Limit	N/A		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>Emkarate RL32 is synthetic polyester (POE) lubricant formulated specifically for use in refrigeration and air-conditioning compressors using HFC refrigerants.</p> <p>Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant oils.</p>		1 and 5 litre containers	<p>This product can be used throughout the duration of the works</p>
Working Methods & Controls		Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with Emkarate RL 32 Refrigeration Oil, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure correct PPE (Personal Protective Equipment) is as detailed in this assessment</p> <p>Ensure only use specified tools and equipment which is suitable for working on refrigeration and air-conditioning systems are used and are serviced, maintained & inspected regularly</p> <p>Refrigerant Oils only to be used in a well-ventilated areas</p> <p>Never overfill systems with refrigerant oil</p>		<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When working with Emkarate RL32 Refrigeration Oil, operative are to use the following equipment –</p> <ul style="list-style-type: none"> ▪ Gloves - Protective gloves – BS EN 511 ▪ Safety glasses - BS EN 166-349B ▪ Safety Footwear – BS EN 345 ▪ Overalls / Long Sleeved Top 	




Accidental Release / Spillage		Fire Fighting							
<p>Initial Action – Consider evacuation of the immediate area and ensure the use of PPE for clean up</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container</p>		<p>If involved in a fire, if possible stop flow of product and move away from container & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions – Do not use high powered water jet, as this will spread the fire.</p> <p>In the event of fire carbon dioxide / carbon monoxide gases could be given off</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>							
Exposure Monitoring & Health Surveillance		Disposal							
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Product should NOT be discharged to environment or where its accumulation could be dangerous</p> <p>All waste oils should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable container and passed to a specialist organisation for disposal.</p>							
First Aid		Safe Handling & Storage							
<p>Skin – Can cause mild skin irritation from prolonged or repeated skin contact. On contact remove contaminated clothing and clean affected area with soap and warm water. Seek medical attention if irritation or discomfort occurs</p> <p>Eyes – Any material that contacts the eye should be washed out immediately. Hold eyelids apart and flush eyes with eye wash solution or plenty of clean water for at least 15 minutes. Remove contact lenses, if present and easy to do, and obtain medical advice</p> <p>Inhalation - Remove exposed person to fresh air if adverse effects are observed. Seek medical advice if required.</p> <p>Ingestion - If swallowed, DO NOT induce vomiting and obtain medical assistance.</p>		<p>Handling</p> <ul style="list-style-type: none">Keep away from heat and ignition sources, such as heat, sparks and flames and never smoke while handling productEnsure adequate ventilation in all work areasRepeated exposure may cause skin dryness, crackingAvoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and warm water, before breaks and after working with product. <p>Storage</p> <ul style="list-style-type: none">Quantity of Emkarate RL32 Refrigeration Oil should be kept to a minimumProduct should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in useKept container upright and stable and store in a cool dry ventilated area away from sources of extreme heat, moistureSegregate and avoid contact with oxidising agents and strong acids <p>Transport</p> <ul style="list-style-type: none">COSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires							
Assessment Rating Details									
Level of Risk with Control Measures in place –				LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020		

COSHH Assessment Form			
Product	HARP PAG 100 Refrigeration lubricant	Product Picture	Hazard
Manufacturer	HARP International Ltd, Gellihirion Ind Est, Pontypridd, CF37 5SX		
Composition	Polyalkylene Glycol with fluorescent UV Dye		
Workplace Exposure Limit	N/A		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
<p>HARP PAG 100 Co² Refrigeration lubricant is synthetic lubricant formulated specifically for use in refrigeration systems.</p> <p>Only competent trained engineers, holding all relevant qualifications to work on Co² and HFC refrigeration systems such as C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant oils.</p>		500mm and 1 litre containers	<p>This product can be used throughout the duration of the works</p> <p>JGR Engineering Personnel</p>
Working Methods & Controls		Personal Protective Equipment	
<p>Only competent trained engineers, holding all relevant qualifications to work on Co² and HFC refrigeration systems such as C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant oils</p> <p>When working with HARP PAG 100 Co² Refrigeration Lubricant, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure correct PPE (Personal Protective Equipment) is as detailed in this assessment</p> <p>Ensure only use specified tools and equipment which is suitable for working on refrigeration and air-conditioning systems are used and are serviced, maintained & inspected regularly</p> <p>Refrigerant Oils only to be used in well-ventilated areas</p> <p>Never overfill systems with refrigerant oil</p>		<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When working with HARP PAG 100 Co² Refrigeration Lubricant, operative are to use the following equipment –</p> <ul style="list-style-type: none"> ▪ Gloves - Protective gloves ▪ Safety goggles / glasses - BS EN 166 ▪ Overalls / Long Sleeved Top ▪ Safety Footwear – BS EN 345 	






Accidental Release / Spillage		Fire Fighting						
Minimal amounts used on site at any one time (approx. 500ml – 1tr) Initial Action – Consider evacuation of the immediate area and ensure the use of PPE for clean up Clean-up Procedure – Absorb spill with inert material (e.g. absorbent materials, dry sand earth) then place in a sealed container		If involved in a fire, if possible stop flow of product and move away from container and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions – Do not use high powered water jet, as this will spread the fire. In the event of fire smoke, fumes, carbon monoxide gases and aldehydes could be given off Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements						
Exposure Monitoring & Health Surveillance		Disposal						
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Product should NOT be discharged to environment or where its accumulation could be dangerous All waste oils should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable container and passed to a specialist organisation for disposal.						
First Aid		Safe Handling & Storage						
Skin – Can cause mild skin irritation from prolonged or repeated skin contact. On contact remove contaminated clothing and launder before reuse, and clean affected area with soap and warm water. Seek medical attention if irritation or discomfort occurs Eyes – Any material that contacts the eye should be washed out immediately. Hold eyelids apart and flush eyes with eye wash solution or plenty of clean water for at least 15 minutes. Remove contact lenses, if present and easy to do, and obtain medical advice Inhalation - Remove exposed person to fresh air if adverse effects are observed. Seek medical advice if required. For those providing assistance, avoid exposure to yourself or others. Ingestion - If swallowed, DO NOT induce vomiting and obtain medical assistance.		Handling <ul style="list-style-type: none">Keep away from heat and ignition sources, such as heat, sparks and flames and never smoke while handling productEnsure adequate ventilation in all work areasRepeated exposure may cause skin dryness, cracking and/or irritation to the eye and respiratory tractAvoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and warm water, before breaks and after working with product. Storage <ul style="list-style-type: none">Quantity of HARP PAG 100 Co² Refrigeration Lubricant should be kept to a minimumProduct should only be stored in manufacturers / suppliers' containers with lid / cap tightly closed when not in useKept container upright and stable and store in a cool dry ventilated area away from sources of extreme heatSegregate and avoid contact with strong oxidising agents Transport <ul style="list-style-type: none">COSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	

COSHH Assessment Form			
Product	Gel Clear Tablets	Product Picture	Hazard
Manufacturer	Gel-Clear Ltd, Mill Gap Building, 145 Bolton Rd, Darwen, Lancs. BB3 1DF T 08443303643 www.gel-clear.co.uk Emergency Contact No. - 111		  Danger – Harmful if swallowed Can cause skin irritation or eye damage
Composition	Contains the following components – Urea – EC No. – 200-315-5 CAS No. 57-13-6 Percentage – 50 – 80% Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides – EC No. 269-919-4 CAS No. 68391-01-5 Percentage 15 – 30% Ethanol – EC No. – 200-578-6 CAS No. 64-17-5 Percentage – 1 – 5% Amines C12-18-alkyldimethyl– EC No. – 269-923-6 CAS No. 68391-04-8 Percentage – <1%		
Workplace Exposure Limit	Ethanol – WEL TWA (mg/m ³) – 1920 mg/m ³ WEL TWA (ppm) – 1000 ppm		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
Gel Clear tablets are a solid orange round tablet used to prevent the build-up of microbial mass, jelly and slime in refrigeration drains. The tablets slowly dissolve and release into the condensate waste water. The tablets leave a protective film on the condensate pan and case plumbing remaining effective for long periods, even once the tablet itself has dissolved. Can be used by JGR engineering personnel, with relevant knowledge, training and experience.		Pack of either 16 or 6 Tablets 1 tablet used at a time.	This product can be used throughout the duration of the works JGR Engineering Personnel
Working Methods & Controls		Personal Protective Equipment	
When working with Gel Clear Tablets, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Operatives to be aware of the risks of contact with dirty condensate drain water. Ensure good ventilation of the work area prior to using product. Ensure all drains are flowing with no blockages. Place tablet in condensate drain pan, ensuring it is in contact with the water – Placing the tablet further from the drain outlet will increase the tablets lifespan and keep the pan cleaner for longer. One tablet is normally installed during a deep clean. The tablet will then slowly dissolve completely, coating everything it comes into contact with while the tablet is dissolving, remaining effective long after the tablet has disappeared		   When working with Gel Clear Tablets , operative are to use the following equipment – <ul style="list-style-type: none"> ▪ Gloves - Protective gloves – BS EN 511 ▪ Safety glasses - BS EN 166-349B ▪ Safety Footwear – BS EN ISO 20345 ▪ Overalls / Long Sleeved Top 	







Accidental Release / Spillage			Fire Fighting			
Initial Action – Ventilate spillage area. Avoid contact with skin, eyes and clothing. Clean-up Procedure – Collect spillage and dispose of in accordance with Disposal section of this CoSHH Assessment			Extinguishing Media – Use extinguishing media appropriate to the surrounding conditions Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.			
Exposure Monitoring & Health Surveillance		Disposal				
No Exposure Monitoring & Health Surveillance required		Product should naturally dissolve when in use and not require any further actions disposal Unused product should either be returned to the supplier or disposed of as hazardous waste or taken to a special waste collection point Packaging should be disposed / recycled as detailed on the packaging Ecology Information – This product is not considered harmful to aquatic organisms nor cause long term adverse effects on the environment. However avoid the discharge of large amounts into the sewers or the environment				
First Aid		Safe Handling & Storage				
Skin – Take off contaminated clothing and wash with plenty of soap and water. If skin irritation occurs, seek medical advice / attention Eyes – Can cause serious eye damage Bathe affected eye with running water for 15mins. Remove contact lenses, if present and easy to do, continue to rinse eye and obtain Medical assistance as soon as possible, for specialist examination. Inhalation - Remove person to fresh air and keep comfortable for breathing. Obtain medical assistance if you feel unwell. Ingestion – Harmful, if swallowed. Rinse mouth. Obtain medical assistance if you feel unwell. Call doctor or poison centre if you feel unwell while handling this product		Handling <ul style="list-style-type: none">▪ Ensure good ventilation of the work station. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment.▪ Wash contaminated clothing before reuse.▪ Do not eat, drink or smoke when using this product.▪ Always wash hands and other exposed areas thoroughly after handling this product. Storage <ul style="list-style-type: none">▪ Gel Clear Tablets should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in use▪ Kept container upright and stable and store in a cool dry, well-ventilated area away from sources of extreme heat, moisture Transport <ul style="list-style-type: none">▪ There are no special precautions required				
Assessment Rating Details						
Level of Risk with Control Measures in place –			LOW	X	MEDIUM	HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -	September 2020

COSHH Assessment Form				
Product	Jally Strips	Product Picture	Hazard	
Manufacturer	Advanced Engineering Ltd, Guardian House, Stroudly Road, Basingstoke, RG24 8NL			
Composition	Contains the following components – Amides Coco N-(Hydroxethyl) – EC No. – 268-770-2 CAS 68140-00-1 Percentage 10 - 30% Didecylidimethylammonium Chloride – EC No – 230-525-2 CAS 7173-51-5 Percentage 1 – 10% Ethanol – EC No – 200-578-6 CAS 64-17-5 Percentage 1 – 10% 3-IODO-2-Propynyl Butylcarbamate – EC No – 259-627-5 t Percentage < 1%			
Workplace Exposure Limit	Ethanol 8hr TWA 1920mg/m ³			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
Jally Strips are a condensate tray treatment providing up to twelve months protection from slime build up caused by bacteria, fungi, algae and other micro-organisms. Jally Strips are designed specifically for use on large cooling systems. When used correctly, Jally Strips are safe to use in food preparation and storage areas. Can be used by JGR engineering personnel, with relevant knowledge, training and experience.		Pack of 6 Tablets / Strips 1 tablet / strip per metre of condensate to be used.	This product can be used throughout the duration of the works	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
When working with Jally Strips tablets / strips, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Prior to use ensure that the drains are flowing and clear of blockages. Place the strip in the tray at the highest end and adjacent to the coil ensuring it's in contact with the water so that the resulting treatment will cover the entire tray. For trays with a central drain hole, place a strip at the highest point on either side of the drain (1 strip per one metre of condensate). To ensure continued protection against slime and mould build-up, Jally Strips should be inspected annually - additional strips can be placed in the tray alongside partially used strips.			 <p>When working with Smell Buster Tablets, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Impervious gloves Chemical Safety glasses - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top 	






Accidental Release / Spillage		Fire Fighting						
Uncontaminated product may be recovered and used as directed. Product contaminated with hazardous material should be dealt with on the basis of the hazardous component (s). Protective clothing may be required to prevent contact with skin and eyes		If involved in a fire, if possible stop flow of product and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions In combustion emits toxic fumes. During combustion other unidentified fragments may be emitted. In case of fire do not breathe fumes - Use of self-contained breathing apparatus and protective clothing may be required to prevent contact with skin and eyes						
Exposure Monitoring & Health Surveillance		Disposal						
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Disposal operations - Transfer to a suitable container and arrange for collection by specialised disposal company. Disposal of packaging - Dispose of as normal industrial waste.						
First Aid		Safe Handling & Storage						
Skin – Could cause mild irritation and an itchy rash at the site of contact Immediately wash area with plenty of mild soap and water for at least 15 minutes. Remove all contaminated clothes unless stuck to skin. Get medical attention if required after administering first aid. Wash clothing before reuse. Transfer to hospital if there are burns or symptoms of poisoning. Eyes – May cause eye irritation, pain and redness and cornea burns may occur. Immediately flush eyes with plenty of eye wash or water for 15 minutes, lifting lower and upper eyelids occasionally. If relevant, remove contact lenses. Transfer to hospital for specialist examination. Inhalation – Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible. Ingestion – There may be soreness and redness to the mouth and throat and could cause vomiting. Do not induce vomiting. Wash out mouth with water and give 1 cup of water to drink every 10minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.		Handling <ul style="list-style-type: none">Ensure adequate ventilation in all work areasAvoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product Storage <ul style="list-style-type: none">Jally Strips should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in useStore in a cool, well-ventilated area. Keep container tightly closed.Kept container upright and stable and store in a cool dry ventilated area away from sources of ignition, heat and humidityKeep away from oxidising agents Transport <ul style="list-style-type: none">CoSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	

COSHH Assessment Form				
Product	Pro-Care Concentrated Evaporator Coil Cleaner	Product Picture	Hazard	
Manufacturer	DiversiTech UK Ltd, Glaisdale Drive East, Nottingham, NG8 4LY		 Corrosive	
Composition	Contains the following components – Sodium Silicate – EC No. – 215-687-4 CAS 1344-0908 - Percentage 1 - 3% Alkylaryl Polyether Alcohol – Percentage 0 – 5% Alkyl Dimethylbenzyl ammonium chloride – Percentage 0 – 5%			
Workplace Exposure Limit	This product does not have a workplace exposure limit.			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
Pro-Care Concentrated Evaporator Coil Cleaner is used as an efficient and highly effective indoor coil cleaner combined with a powerful disinfectant, which effectively kills MRSA, Legionella and many other germs Can be used by JGR engineering personnel, with relevant knowledge, training and experience.		5ltr Container Product diluted - Mix 8 parts water with 1 part Pro-Care - Pro-Care	This product can be used throughout the duration of the works	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
When working with Pro-Care Concentrated Evaporator Coil Cleaner, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Turn off unit before cleaning Mix 8 parts water with 1 part Pro-Care - Pro-Care should be diluted in a plastic container or low pressure sprayer Applied liberally to coil surface Allow 5-10 minutes for solution to react and dissolve contaminants and provide initial coil protection. Pro-Care is self-rinsing on evaporator coils but rinsing with clean water is recommended for condenser coils. DEODORISING - Apply a light spray of mixed Pro-Care into the air or onto air conditioner filters to remove odours.			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When working with Pro-Care Concentrated Evaporator Coil Cleaner, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Impervious gloves Chemical Safety glasses - BS EN 166-349B / Full Face Shield Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top 	




Accidental Release / Spillage		Fire Fighting					
<p>Initial Action – Contain and recover liquid, where possible</p> <p>Clean-up Procedure – Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.</p>		<p>Extinguishing Media – If involved in a fire, if possible stop flow of product & move away from cylinder & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>May produce carbon monoxide, carbon dioxide, hydrogen chloride or other unidentified waste if this product is involved in a fire</p> <p>In case of fire do not breathe fumes - Irritating and toxic gases may be released during a fire. Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>					
Exposure Monitoring & Health Surveillance		Disposal					
Ensure there is sufficient ventilation of the area. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.		<p>Do not discharge into drains or rivers</p> <p>Disposal operations – Treat empty containers as hazardous waste</p> <p>Disposal of packaging – Treat empty containers as hazardous waste. Dispose of in a waste management facility.</p>					
First Aid		Safe Handling & Storage					
<p>Skin – Irritation: Corrosive, can cause burns</p> <p>Remove all contaminated clothing and footwear immediately, unless stuck to the skin. Flush the affected area with running water for at least 10mins or longer if substance still on skin. Obtain Medical assistance if required.</p> <p>Eyes – Risk of serious damage to eyes.</p> <p>Bathe affected eye with running water for 15mins. Obtain Medical assistance as soon as possible, for specialist examination.</p> <p>Inhalation – Harmful if swallowed</p> <p>Wash out mouth with water. Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Obtain Medical assistance as soon as possible.</p> <p>Ingestion - Call 999 immediately. Remove casualty from exposure, if safe to do so. If unconscious and breathing is OK, place in the recovery position. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. If person stops breathing give artificial respiration. Obtain Medical assistance as soon as possible.</p>		<p>Handling</p> <ul style="list-style-type: none">Ensure adequate ventilation in all work areasAvoid breathing vapours or mist. Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product <p>Storage</p> <ul style="list-style-type: none">Pro-Care Concentrated Evaporator Coil Cleaner should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in useKept container upright and stable and store in a cool dry ventilated area away from sources of extreme heat, moisture <p>Transport</p> <ul style="list-style-type: none">COSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	Silfos 5 Rods	Product Picture	Hazard	
Manufacturer	Lucas-Milhaupt, Inc, 5656 S. Pennsylvania Ave, Cudahy, WI 53110, USA		 	
Composition	Contains the following components – Copper CAS No. - 7440-50-8 (87 – 91%) Phosphorus CAS No. - 7723-14-0 (5.8 – 6.2%) Silver CAS No. – 7440-22-4 (4.8 – 5.2%)			
Workplace Exposure Limit	Copper – 0.1mg/m3 twa (fume) and 1mg/m3 twa (dusts & mists) Phosphorus – No applicable limits Silver - 0.1 mg/m3 twa and 1mg/m3 twa (metal)			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
Silfos 5 Rods are used within the brazing process as a filler-material to make copper to copper joints on Commercial / Industrial Air Conditioning & Refrigeration Systems. Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.		30 rods in a packet Number of rods used varies depending on number of joints to be joined	Between 2 – 5mins to braze one joint Number of joints will vary from job to job	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>Can be used by JGR engineering personnel, however only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant gases.</p> <p>When working with Silfos 5 Rods, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure adequate general ventilation at all times – Fumes from brazing rods are very low order of toxicity and with reasonable ventilation exposure limits are unlikely to be exceeded. However, the inhalation of any fumes should be avoided to prevent irritation to eyes, nose, throat and respiratory tract</p> <p>Avoid overheating of joints</p> <p>Wash hands after handling brazing rods & before eating and drinking</p> <p>Reactions between perspiration and phosphorous content of brazing rod can increase irritation</p>			<div>    </div> <p>When working with Silfos 5 Rods, operative are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves Safety glasses - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top Respirator – In areas with insufficient ventilation 	







Accidental Release / Spillage			Fire Fighting				
<p>Initial Action – Non Hazardous</p> <p>Clean-up Procedure – Solid non-hazardous material</p> <p>Powder Form - Clean up spillage by wet sweeping or using a vacuum with HEPA filter</p> <p>Product Form - Not considered as a risk, ensure disposal of product, as detailed in disposal section</p>			<p>Silfos 5 Rods are flammable and can easily ignited by heat, sparks or flames</p> <p>Cool from a protected position if safe to do so – Dry Powder or Foam fire extinguishers should be used to area - Do Not use Water extinguisher</p> <p>Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements</p>				
Exposure Monitoring & Health Surveillance		Disposal					
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>It is recommended that waste rods are controlled as scrap and given over for refining</p> <p>Ecology Information – No Information available</p>					
First Aid		Safe Handling & Storage					
<p>Skin – Skin contact with this product, particularly in fine divided forms, may cause irritation and / or contact dermatitis. Wash skin with plenty of soap and water. Obtain medical assistance if irritation persists.</p> <p>Eyes –</p> <p><u>Powder</u> – Irrigate with water or saline solution for at least 15 minutes. Get Medical attention, if irritation persists</p> <p><u>Fumes</u> – Move to fresh air, eyes should clear themselves</p> <p>Inhalation - Move to fresh air, if symptoms persist seek medical attention, in extreme cases give artificial respiration if breathing ceases</p> <p>Ingestion - Not considered a potential route of exposure, However, if occurs induce vomiting if conscious and seek medical advice</p>		<p>Handling</p> <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Do not eat or drink or smoke while handling this product▪ Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product <p>Storage</p> <ul style="list-style-type: none">▪ Silfos 5 Rods should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in use▪ Store in a cool, well-ventilated area. Keep container tightly closed.▪ Keep dry and do not expose to direct sunlight. Can be stored in clean, dry rooms under normal conditions with respect to humidity (50 - 70 %) and surrounding temperature (0 °C - 35 °C)▪ Kept rods stable and store in a cool dry ventilated area away from sources of ignition, heat and humidity▪ Keep away from oxidising agents and strong acids <p>Transport</p> <ul style="list-style-type: none">▪ CoSHH assessment to be held in vehicle▪ All containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form			
Product	Vacuum Pump Oil	Product Picture	Hazard
Manufacturer	Advanced Engineering Ltd Guardian House Stroudley Road Basingstoke Hampshire RG24 8NL		
Composition	Contains the following components – Distillates Petroleum Solvent-refined heavy paraffinic		
Workplace Exposure Limit	N/A		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
Robinar Vacuum Pump Oil is a lubricant for use on refrigeration system Vacuum Pumps Only competent trained engineers, holding C&G 2079 F-gas Certificate, can carry out works on systems containing refrigerant oils.		500ml and 2 litre containers	This product can be used throughout the duration of the works JGR Engineering Personnel
Working Methods & Controls		Personal Protective Equipment	
<p>Only competent trained engineers holding C&G 2079 F-gas Certificate can work on systems containing refrigerant gases</p> <p>When working with Robinair Vacuum Pump Oil, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Ensure correct PPE (Personal Protective Equipment) is as detailed in this assessment</p> <p>Ensure only use specified tools and equipment which is suitable for working on refrigeration and air-conditioning systems are used and are serviced, maintained & inspected regularly</p> <p>Vacuum Pump Oil only to be used in a well-ventilated areas</p>		<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When working with Robinair Vacuum Pump Oil, operative are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Protective gloves – BS EN 511 Safety glasses - BS EN 166-349B Safety Footwear – BS EN 345 Overalls / Long Sleeved Top 	






Accidental Release / Spillage		Fire Fighting					
Clean-up Procedure – Absorb in dry earth or sand, transfer to a suitable sealed container and disposed of as controlled waste Other Actions – Do not allow spills to enter the drains or water courses		If involved in a fire, if possible stop flow of product and move away from container & cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions – Do not use high powered water jet, as this will spread the fire. Use of self-contained breathing apparatus may be required in confined spaces or any place where its accumulation could be dangerous, such as confined spaces, sewers, basements					
Exposure Monitoring & Health Surveillance		Disposal					
Do not smoke while handling this product Do not eat or drink whilst handling this product No Health Surveillance required while using this product		Handle and dispose of as controlled waste and processed through a licensed disposal site - All waste oils should be disposed of using the correct Hazardous Waste Transfer Note system and measured into a suitable container and passed to a specialist organisation for disposal.					
First Aid		Safe Handling & Storage					
Skin – Can cause mild skin irritation from prolonged or repeated skin contact. On contact remove contaminated clothing and clean affected area with soap and warm water. Seek medical attention if irritation or discomfort occurs Eyes – Any material that contacts the eye should be washed out immediately. Hold eyelids apart and flush eyes with eye wash solution or plenty of eye wash solution or clean water for at least 15 minutes. Remove contact lenses, if present and easy to do, and obtain medical advice Inhalation - Remove exposed person to fresh air if adverse effects are observed. Seek medical advice if required. Ingestion - If swallowed, DO NOT induce vomiting. Wash out mouth with water. Give 1 cup of water to drink every 10 minutes and obtain medical assistance.		Handling <ul style="list-style-type: none">Keep away from heat and ignition sources, such as heat, sparks and flames and never smoke while handling productEnsure adequate ventilation in all work areasRepeated exposure may cause skin dryness, crackingAvoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and warm water, before breaks and after working with product. Storage <ul style="list-style-type: none">Quantity of Robinair Vacuum Pump Oil should be kept to a minimumProduct should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in useKept container upright and stable and store in a cool dry ventilated area away from sources of extreme heat, moistureSegregate and avoid contact with oxidising agents and strong acids Transport <ul style="list-style-type: none">COSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle should have a secure solid bulkhead to protect the driverVehicle must with a suitable Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form				
Product	CoolSafe RTU (Ready to Use)	Product Picture	Hazard	
Manufacturer	Advanced Engineering Ltd, Guardian House, Stroudly Road, Basingstoke, RG24 8NL Emergency Contact – 01256 854318			
Composition	Contains the following components – Trisodium Nitritotriacetate – EC No. – 225-768-6 CAS 5064-31-3 Percentage <1% Didecyldimethylammonium Chloride – EC No – 230-525-2 CAS 7173-51-5 Percentage <1% Non-ionic Surfactant – EC No – N/A CAS 78330-21-9 Percentage <1% Ionic Surfactant – EC No – N/A CAS N/A Percentage <1%			
Workplace Exposure Limit	None detailed on MSDS			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
CoolSafe RTU is an effective coil cleaner and disinfectant used to effectively remove all common contaminants left by organic materials and foodstuffs on refrigeration system cooling coils CoolSafe RTU is safe to use on food display cabinets, walk-in refrigerators, freezers, food preparation and storage areas (CoolSafe RTU is registered by NSF) Can be used by JGR engineering personnel, with relevant knowledge, training and experience.		1 & 5ltr Containers	This product can be used throughout the duration of the works	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
When working with CoolSafe RTU, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. CoolSafe RTU is ready to use and should not be diluted Turn off and isolate refrigeration equipment and remove all food items from work area - Ensure CoolSafe RTU does not come into contact with foodstuffs. Spray into coil, starting at top corner and working methodically across and down. Keep all surfaces wet for 5 minutes. Rinse thoroughly after use with fresh water CoolSafe RTU should be used in line with normal maintenance schedule - When used correctly, CoolSafe RTU is safe to use in food preparation and storage areas (CoolSafe RTU is registered by NSF)			 <p>When working with CoolSafe RTU, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Impermeable gloves Tight Fitting Safety glasses - BS EN 166 Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top 	






Accidental Release / Spillage		Fire Fighting						
<p>Initial Action – Evacuate immediate area and ensure the use of PPE for clean-up. If able turn leaking container, leak-side up to minimise liquid loss.</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container and arrange for collection by specialised disposal company.</p> <p>Wash affected area with large amount of fresh water</p>		<p>If involved in a fire, if possible stop flow of product and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>In combustion emits toxic fumes - In case of fire do not breathe fumes</p> <p>Advice for Fire Fighters - Use of self-contained breathing apparatus and protective clothing may be required to prevent contact with skin and eyes</p>						
Exposure Monitoring & Health Surveillance		Disposal						
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Disposal operations – Transfer to a suitable container and arrange for collection by specialised disposal company.</p> <p>Disposal of packaging – Clean with fresh water and dispose of as normal industrial waste.</p> <p>Do not discharge in to drains or sewer - Very toxic to aquatic life with long lasting effects</p>						
First Aid		Safe Handling & Storage						
<p>Skin – Could cause mild irritation at the site of contact. Remove all contaminated clothes unless stuck to skin and wash area with plenty of soap and water for at least 15 minutes.</p> <p>Get medical attention if required after administering first aid. Wash clothing before reuse.</p> <p>Eyes – May cause eye irritation, pain and redness. Immediately flush eyes with plenty of eye wash or water for 15 minutes, lifting lower and upper eyelids occasionally. If relevant, remove contact lenses. Transfer to hospital for specialist examination.</p> <p>Inhalation – Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p> <p>Ingestion – Do not induce vomiting. Wash out mouth with water and give 1 cup of water to drink every 10minutes.</p> <p>If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p>		<p>Handling</p> <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product▪ Avoid direct contact with the substance and breathing in fumes▪ Do not handle in a confined space. <p>Storage</p> <ul style="list-style-type: none">▪ CoolSafe RTU should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in use▪ Store upright in a cool, dry, well-ventilated area.▪ Keep container tightly closed upright and stable away from sources of heat▪ Keep away from oxidising agents <p>Transport</p> <ul style="list-style-type: none">▪ CoSHH assessment to be held in vehicle▪ All containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	

COSHH Assessment Form				
Product	DrainSafe	Product Picture	Hazard	
Manufacturer	Advanced Engineering Ltd, Guardian House, Stroudly Road, Basingstoke, RG24 8NL Emergency Contact – 01256 854318		 	
Composition	Contains the following components – Sodium Hydroxide – EC No. – 215-185-5 CAS 1310-73-2 Percentage 10 - 30% Sodium Silicate Solution – EC No – 215-687-4 CAS 1344-09-8 Percentage 1 – 10%			
Workplace Exposure Limit	Hazardous Ingredients - Sodium Hydroxide 15min STEL 2mg/m ³			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>DrainSafe is a bio-degradable drain un-blocker, used to unblock and remove biofilm from refrigeration systems. It has been designed to quickly dissolve slime and biofilms. These build-ups are commonly found in the condensate lines draining away from chilled storage and dairy cabinets and can cause blockages and the spread of bacteria.</p> <p>DrainSafe is acceptable for use on drains in and around food processing areas.</p> <p>Can be used by JGR engineering personnel, with relevant knowledge, training and experience.</p>		500ml or 5ltr Container	This product can be used throughout the duration of the works	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>When working with DrainSafe, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Turn off and isolate refrigeration equipment and remove all food items from work area - Ensure DrainSafe does not come into contact with foodstuffs.</p> <p>Remove excess water from condensate tray, and condensate drain, if possible.</p> <p>Gently pour DrainSafe into the tray and allow it to enter the drain.</p> <p>Ensure DrainSafe does not come into contact with foodstuffs.</p> <p>Allow DrainSafe to remain in condensate tray and drain for five minutes or until obstruction is cleared.</p> <p>Flush out with fresh water for 2-3 minutes.</p> <p>Repeat as necessary until obstruction is cleared</p> <p>DrainSafe should be used in line with normal maintenance schedule - When used correctly, DrainSafe is safe to use in food preparation and storage areas (DrainSafe is registered by NSF)</p>			<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>When working with Smell Buster Tablets, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Nitrile / Impermeable gloves Chemical Safety glasses - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top 	

Accidental Release / Spillage		Fire Fighting						
<p>Initial Action – Evacuate immediate area and ensure the use of PPE for clean-up. If able turn leaking container, leak-side up to minimise liquid loss.</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container and arrange for collection by specialised disposal company.</p> <p>Wash affected area with large amount of fresh water</p>		<p>If involved in a fire, if possible stop flow of product and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>In combustion emits toxic fumes. During combustion other unidentified fragments may be emitted.</p> <p>In case of fire do not breathe fumes - Use of self-contained breathing apparatus and protective clothing may be required to prevent contact with skin and eyes</p>						
Exposure Monitoring & Health Surveillance		Disposal						
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Disposal operations – Transfer to a suitable container and arrange for collection by specialised disposal company.</p> <p>Disposal of packaging – Clean with fresh water and dispose of as normal industrial waste.</p> <p>Do not discharge in to drains or sewers</p>						
First Aid		Safe Handling & Storage						
<p>Skin – There may be redness or whiteness of the skin in the area of exposure. Blistering may occur. Remove all contaminated clothes unless stuck to skin and drench the skin / area with plenty of water for at least 15 minutes. Get medical attention if required after administering first aid. Wash clothing before reuse.</p> <p>Eyes – May be pain and redness, eyes may water profusely. The vision may become blurred. Corneal burns may occur - May cause permanent damage. Immediately flush eyes with plenty of eye wash or water for 15 minutes, lifting lower and upper eyelids occasionally. If relevant and able, remove contact lenses. Transfer to hospital for specialist examination as soon as possible</p> <p>Inhalation – Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p> <p>Ingestion – Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose. Do not induce vomiting. Wash out mouth with water and give 1 cup of water to drink every 10minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p>		<p>Handling</p> <ul style="list-style-type: none">Ensure adequate ventilation in all work areasAvoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling productEnsure there is sufficient ventilation of the area.Do not handle in a confined space. Avoid the formation or spread of mists in the air. <p>Storage</p> <ul style="list-style-type: none">DrainSafe should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in useStore upright in a cool, dry, well-ventilated area.Keep container tightly closed upright and stable away from sources of heatKeep away from oxidising agents <p>Transport</p> <ul style="list-style-type: none">CoSHH assessment to be held in vehicleAll containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportationVehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	




COSHH Assessment Form				
Product	HB 30 Ice Machine Cleaner & Disinfectant	Product Picture	Hazard	
Manufacturer	Advanced Engineering Ltd, Guardian House, Stroudly Road, Basingstoke, RG24 8NL Emergency Contact – 01256 854318		 Corrosive	
Composition	Contains the following components – Orthophosphoric Acid – EC No. – 231-633-2 CAS 7664-38-2 Percentage 10 - 30% Acetic Acid – EC No – 200-580-7 CAS 64-19-7 Percentage 1 – 10% Didecylidimethylammonium Chloride – EC No – 230-525-2 CAS 7173-51-5 Percentage <1%			
Workplace Exposure Limit	Orthophosphoric Acid – 8hr TWA - 1mg/m ³ and 15min STEL 2mg/m ³			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
HB 30 Ice Machine Cleaner & Disinfectant is a high strength descaler and disinfectant used to effectively remove lime scale and slime, which are common problems in ice machines and will disinfect all surfaces. HB 30 Ice Machine Cleaner & Disinfectant, when used correctly, is safe to use in food preparation and storage areas Can be used by JGR engineering personnel, with relevant knowledge, training and experience.		1 & 5ltr Containers Product diluted - Mix 60ml per litre of water	This product can be used throughout the duration of the works	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
When working with HB 30 Ice Machine Cleaner & Disinfectant, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments. Turn off refrigeration and leave pump in operation, if possible, drain machine and refill with fresh water. Add HB 30 Ice Machine Cleaner & Disinfectant to circulating water at a rate of about 60ml per litre and allow to circulate for about 30 minutes. Brush cleaning solution onto scaled surfaces not contacted by circulation - Extra-heavy scale may require another dose of HB 30 Ice Machine Cleaner & Disinfectant Drums may be cleaned by mixing 250ml HB-30 with 2 litres of water in a plastic container and brushing solution onto scaled surfaces. After scale removal, drain cleaning solution and flush thoroughly with fresh water. Use HB 30 Ice Machine Cleaner & Disinfectant in line with normal maintenance schedule			   When working with Smell Buster Tablets, operatives are to use the following equipment – <ul style="list-style-type: none"> Gloves - Impermeable gloves Tight Fitting Safety glasses - BS EN 166 Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top 	

Accidental Release / Spillage			Fire Fighting				
<p>Initial Action – Evacuate immediate area and ensure the use of PPE for clean up</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container and arrange for collection by specialised disposal company.</p> <p>Wash affected area with large amount of fresh water</p>			<p>If involved in a fire, if possible stop flow of product and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>In combustion emits toxic fumes. In case of fire do not breathe fumes - Use of self-contained breathing apparatus and protective clothing may be required to prevent contact with skin and eyes</p>				
Exposure Monitoring & Health Surveillance		Disposal					
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Disposal operations – Transfer to a suitable container and arrange for collection by specialised disposal company.</p> <p>Disposal of packaging – Clean with fresh water and dispose of as normal industrial waste.</p>					
First Aid			Safe Handling & Storage				
<p>Skin – Could cause irritation / redness / whiteness or blistering at the site of contact. Immediately remove all contaminated clothes unless stuck to skin and wash area with plenty of water for at least 15 minutes. Get medical attention if required after administering first aid. Wash clothing before reuse. Transfer to hospital if there are burns or symptoms of poisoning.</p> <p>Eyes – May cause eye irritation, pain and redness and cornea burns and permanent damage may occur. Immediately flush eyes with plenty of eye wash or water for 15 minutes, lifting lower and upper eyelids occasionally. If relevant, remove contact lenses. Transfer to hospital for specialist examination.</p> <p>Inhalation – There may be shortness of breath with a burning sensation in the throat. May cause coughing or wheezing. Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p> <p>Ingestion – May be soreness and redness to the mouth and throat. Corrosive burns may appear around the lips. Blood may be vomited. Nausea and stomach pain may occur. Do not induce vomiting. Wash out mouth with water and give 1 cup of water to drink every 10minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p>			<p>Handling</p> <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product▪ Avoid direct contact with the substance.▪ Ensure there is sufficient ventilation of the area.▪ Do not handle in a confined space. <p>Storage</p> <ul style="list-style-type: none">▪ HB 30 Ice Machine Cleaner & Disinfectant should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in use▪ Store in a cool, dry, well-ventilated area.▪ Keep container tightly closed upright and stable away from sources of heat <p>Transport</p> <ul style="list-style-type: none">▪ CoSHH assessment to be held in vehicle▪ All containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires				
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020

COSHH Assessment Form			
Product	PyroCool	Product Picture	Hazard
Manufacturer	Advanced Engineering Ltd, Guardian House, Stroudly Road, Basingstoke, RG24 8NL Emergency Contact – 01256 854318		
Composition	Contains the following components –		
Workplace Exposure Limit	None detailed on MSDS		
How is the Product / Substance Used		Quantity	Time Task takes & Frequency
PyroCool™ is a heat-dissipating, flame-retardant gel, developed to dramatically reduce heat transfer during soldering, brazing and welding. PyroCool™ protects against scorching of materials, loosening of existing joints and damaging of sensitive components. Can be used by JGR engineering personnel, with relevant knowledge, training and experience.		250ml, 500ml or 1ltr Containers	This product can be used throughout the duration of the works
Working Methods & Controls		Personal Protective Equipment	
<p>When working with PyroCool, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>PyroCool is ready to use and should not be diluted - At first time of use, sprayer will require priming – possibly 30 pumps.</p> <p>Spray onto pipework and adjacent surfaces, or components to be protected, using a fine or coarse spray as appropriate - For best results, ensure coating is as thick and even as possible.</p> <p>Note - During application of heat, PyroCool™ may evaporate; simply apply further coatings to maintain protection.</p> <p>PyroCool™ is not expected to harm any surfaces - If in doubt, test on a small, non-crucial area first.</p> <p>On completion of brazing, soldering or welding, wipe all surfaces or components clean with a damp cloth.</p> <p>Do not allow product and sprayer to freeze.</p>		<div>    </div> <p>When working with PyroCool, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> ▪ Gloves - Impermeable gloves ▪ Tight Fitting Safety glasses - BS EN 166 ▪ Safety Footwear – BS EN ISO 20345 ▪ Overalls / Long Sleeved Top 	

Health & Safety

Accidental Release / Spillage			Fire Fighting				
<p>Initial Action – Evacuate immediate area and ensure the use of PPE for clean-up. If able turn leaking container, leak-side up to minimise liquid loss.</p> <p>Clean-up Procedure – Absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container and arrange for collection by specialised disposal company.</p> <p>Wash affected area with large amount of fresh water</p>			<p>If involved in a fire, if possible stop flow of product and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>Advice for Fire Fighters - Use of self-contained breathing apparatus and protective clothing may be required to prevent contact with skin and eyes</p>				
Exposure Monitoring & Health Surveillance		Disposal					
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Disposal operations – Transfer to a suitable container and arrange for collection by specialised disposal company.</p> <p>Disposal of packaging – Clean with fresh water and dispose of as normal industrial waste.</p>					
First Aid		Safe Handling & Storage					
<p>Skin – Could cause mild irritation at the site of contact. Remove all contaminated clothes unless stuck to skin and wash area with plenty of soap and water for at least 15 minutes. Get medical attention if required after administering first aid. Wash clothing before reuse.</p> <p>Eyes – May cause eye irritation, pain and redness. Immediately flush eyes with plenty of eye wash or water for 15 minutes, lifting lower and upper eyelids occasionally. If relevant, remove contact lenses. Transfer to hospital for specialist examination.</p> <p>Inhalation – N/A Inhalation is not considered a potential route of exposure</p> <p>Ingestion – May cause soreness and redness of the mouth and throat. Do not induce vomiting. Wash out mouth with water and give 1 cup of water to drink every 10minutes. Get medical attention if required after administering first aid</p>		<p>Handling</p> <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product▪ Avoid direct contact with the substance and breathing in fumes▪ Do not handle in a confined space. <p>Storage</p> <ul style="list-style-type: none">▪ PyroCool should only be stored in manufacturers / suppliers containers with lid / cap tightly closed when not in use▪ Store upright in a cool, dry, well-ventilated area.▪ Keep container tightly closed upright and stable away from sources of direct sunlight and heat <p>Transport</p> <ul style="list-style-type: none">▪ CoSHH assessment to be held in vehicle▪ All containers MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires					
Assessment Rating Details							
Level of Risk with Control Measures in place –			LOW	X	MEDIUM	HIGH	
Assessor -	Trevor Foster	Date -	March 2018	Review Date -		March 2020	

COSHH Assessment Form				
Product	StayClean Mini Tablets	Product Picture	Hazard	
Manufacturer	Advanced Engineering Ltd, Guardian House, Stroudly Road, Basingstoke, RG24 8NL Emergency Contact – 01256 854318		 Harmful if swallowed	
Composition	Contains the following components – Alkyl Dimethyl Benzyl Ammonium Chloride – EC No. – 270-325-2 CAS 68424-85-1 Percentage 1 - 10%			
Workplace Exposure Limit	None detailed on MSDS			
How is the Product / Substance Used		Quantity	Time Task takes & Frequency	Persons Exposed
<p>StayClean Mini Tablets are an inexpensive, easy-to-use condensate tray treatment. The tablets will control odours and prevent sludge build-ups and blockages in the condensate tray and drain.</p> <p>They are safe to use, non-corrosive and, being totally soluble, leaving no residues to create further problems.</p> <p>One tablet will treat a 2-3kW system and will last for a month. Multiple tablets can be used in larger systems for maximum flexibility.</p> <p>Can be used by JGR engineering personnel, with relevant knowledge, training and experience.</p>		Packet of 20 tablets	This product can be used throughout the duration of the works	JGR Engineering Personnel
Working Methods & Controls			Personal Protective Equipment	
<p>When working with StayClean Mini Tablets, engineers must always carry out works following all control measures and task methodologies detailed in all relevant JGR Method Statements, Task Procedures and Risk Assessments.</p> <p>Place the tablet in the tray at the highest end, and adjacent to the coil, so that the resulting treatment will cover the entire tray.</p> <p>For larger systems multiple tablets may be used.</p> <p>For initial applications, or where the tray and drain are severely contaminated, double the suggested treatment rate.</p> <p>One tablet will treat a 2-3kW system and will last for a month. Multiple tablets can be used in larger systems for maximum flexibility.</p> <p>Disposal Product and packaging: Dispose of as normal industrial waste</p>			 <p>When working with StayClean Mini Tablets, operatives are to use the following equipment –</p> <ul style="list-style-type: none"> Gloves - Nitrile / Impermeable gloves Chemical Safety glasses - BS EN 166-349B Safety Footwear – BS EN ISO 20345 Overalls / Long Sleeved Top 	

Accidental Release / Spillage		Fire Fighting						
<p>Initial Action – Evacuate immediate area and ensure the use of PPE for clean-up.</p> <p>Clean-up Procedure – If able recover whole tablets, then absorb spill with inert material (e.g. dry sand or earth) then place in a sealed container and arrange for collection by specialised disposal company.</p> <p>Wash affected area with large amount of fresh water</p>		<p>If involved in a fire, if possible stop flow of product and cool from a protected position if safe to do so – All known fire extinguishers can be used to cool cylinders, use extinguishing media appropriate to the surrounding conditions</p> <p>In combustion emits toxic fumes. During combustion other unidentified fragments may be emitted.</p> <p>In case of fire do not breathe fumes - Use of self-contained breathing apparatus and protective clothing may be required to prevent contact with skin and eyes</p>						
Exposure Monitoring & Health Surveillance		Disposal						
<p>Do not smoke while handling this product</p> <p>Do not eat or drink whilst handling this product</p> <p>No Health Surveillance required while using this product</p>		<p>Disposal operations – Transfer to a suitable container and arrange for collection by specialised disposal company.</p> <p>Disposal of packaging – Clean with fresh water and dispose of as normal industrial waste.</p> <p>Do not discharge in to drains or sewers - Very toxic to aquatic life with long lasting effects</p>						
First Aid		Safe Handling & Storage						
<p>Skin – Could cause mild irritation and an itchy rash at the site of contact Immediately wash area with plenty of mild soap and water for at least 15 minutes. Remove all contaminated clothes unless stuck to skin. Get medical attention if required after administering first aid. Wash clothing before reuse. Transfer to hospital if there are burns or symptoms of poisoning.</p> <p>Eyes – May cause eye irritation, pain and redness and cornea burns may occur. Immediately flush eyes with plenty of eye wash or water for 15 minutes, lifting lower and upper eyelids occasionally. If relevant, remove contact lenses. Transfer to hospital for specialist examination.</p> <p>Inhalation – Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.</p> <p>Ingestion – There may be soreness and redness to the mouth and throat and could cause vomiting. Do not induce vomiting. Wash out mouth with water and give 1 cup of water to drink every 10minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.</p>		<p>Handling</p> <ul style="list-style-type: none">▪ Ensure adequate ventilation in all work areas▪ Avoid contact with the skin, eyes and clothing – Wash hands thoroughly with soap and water, after handling product▪ Avoid the formation or spread of dust in the air - Ensure there is sufficient ventilation of the area▪ Do not handle in a confined space. <p>Storage</p> <ul style="list-style-type: none">▪ StayClean Mini Tablets should only be stored in manufacturers / suppliers containers with packet closed when not in use▪ Store in a cool, dry, well-ventilated area.▪ Keep packet tightly closed and stable away from sources of heat▪ Keep away from oxidising agents <p>Transport</p> <ul style="list-style-type: none">▪ CoSHH assessment to be held in vehicle▪ All packet MUST be suitably secured / restrained in the rear of the vehicle to prevent movement during transportation▪ Vehicle must have a suitable 2kg Dry Powder Fire Extinguisher carried on vehicles to combat vehicle fires						
Assessment Rating Details								
Level of Risk with Control Measures in place –			LOW	X	MEDIUM		HIGH	
Assessor -	Trevor Foster	Date -	March 2018		Review Date -		March 2020	