GHS SAFETY DATA SHEET

TFP-500 RED Low VOC Cement for CPVC Plastic Pipe

Date Revised: MAR 2010

Supersedes: DEC 2008

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

TFP-500 RED Low VOC Cement for CPVC Plastic Pipe

PRODUCT USE:

Low VOC Solvent Cement for CPVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation

17109 South Main Street, Carson, CA 90248-3127

P.O. Box 379, Gardena, CA 90247-0379

Tel. 1-310-898-3300

Medical: Tel. 800.451.8346, 760.602.8703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health Acute Toxicity: Category 4 Skin Irritation: Category 3

H225: Highly flammable liquid and vapor

H319: Causes serious eye irritation

H335: May cause respiratory irritation

H336: May cause drowsiness or dizziness

EUH019: May form explosive peroxides

H332: Harmful if inhaled

NO Category 2B

Environmental Acute Toxicity: Chronic Toxicity:

None Known Flammable Liquid None Known

Physical

Category 2

GHS LABEL:

Eye:

OR

EMERGENCY: Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)



Signal Word:

WHMIS CLASSIFICATION:

CLASS B, DIVISION 2

Skin Sensitization:

4 **Hazard Statements**

Danger

Precautionary Statements

P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking

P261: Avoid breathing dust/fume/gas/mist/vapors/spray

P280: Wear protective gloves/protective clothing/eye protection/lace protection

P337+P313: Get medical advice/attention

P403+P233: Store in a well ventilated place. Keep container tightly closed P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH	CONCENTRATION
		3.1.00	Pre-registration Number	% by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	30 - 60
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	5 - 25
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 20

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing. Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

SECTION 4 - FIRST AID MEASURES

Contact with eyes:

Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.

Skin contact: Inhalation: Ingestion:

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice. Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice. Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Sultable Extinguishing Media: Unsuitable Extinguishing Media: Exposure Hazards:

Dry chemical powder, carbon dioxide gas, foam, Halon, water fog Water spray or stream Inhalation and dermal contact

Health Flammability Reactivity

HMIS

2

3

0

NFPA 0-Minimal 2 1-Slight 3 2-Moderate 0 3-Serious

4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks. **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Personal precautions:

Combustion Products:

Keep away from heat, sparks and open flame.

Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear sultable respiratory protective equipment. Prevent contact with skin or eyes (see section 8).

Oxides of carbon, hydrogen chloride and smoke

Environmental Precautions:

Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course. Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.

Methods for Cleaning up:

Materials not to be used for clean up:

Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.

Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.

Do not eat, drink or smoke while handling.

Storage: Store in ventilated room or shade below 33 °C (90 °F) and away from direct sunlight.

Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS: Component ACGIH TLV ACGIH STEL OSHA PEL OSHA STEL: Tetrahydrofuran (THF 50 ppm 100 ppm 200 ppm Methyl Ethyl Ketone (MEK) 200 ppm 300 ppm 200 ppm Cyclohexanone 20 ppm 50 ppm 50 ppm

Engineering Controls: Use local exhaust as needed.

Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE): Eye Protection:

Skin Protection:

Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.

Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.

Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application

practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

Appearance:

Orange or gray, heavy syrupy liquid

Odor:

Ketone

pH:

Not Applicable

Melting/Freezing Point:

-108.5 ℃ (-163.3 °F) Based on first melting component: THF

Boiling Point: Flash Point:

VOC Content:

66 °C (151 °F) Based on first boiling component: THF -20 °C (-4 °F) TCC based on THF

Specific Gravity: Solubility:

0.995 @23°C (73°F) Solvent portion soluble in water. Resin portion separates out.

Partition Coefficient n-octanol/water:

Auto-ignition Temperature: Decomposition Temperature:

Not Available 321 ℃ (610 °F) based on THF

Not Applicable

When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 490 g/l.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Hazardous decomposition products: Stable

None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke. Keep away from heat, sparks, open flame and other ignition sources.

Conditions to avoid: Incompatible Materials:

Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:

Inhalation, Eye and Skin Contact

Acute symptoms and effects: Inhalation:

Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

Eye Contact:

Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Skin Contact:

Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

Ingestion:

Tetrahydrofuran (THF)

May cause nausea, vomiting, diarrhea and mental sluggishness. None known to humans

Chronic (long-term) effects:

I D50

Oral: 2842 mg/kg (rat) Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) I C50

Inhalation 3 hrs. 21,000 mg/m3 (rat) Inhalation 8 hrs. 23,500 mg/m3 (rat)

Odor Threshold:

Boiling Range:

Flammability:

Vapor Pressure:

Vapor Density:

Evaporation Rate:

Flammability Limits:

Other Data: Viscosity:

0.88 ppm (Cyclohexanone)

UEL: 11.8% based on THF

> 1.0 (BUAC = 1)

Category 2

<2 (Air = 1)

Heavy bodied

66°C (151°F) to 156°C (313°F)

LEL: 1.1% based on Cyclohexanone

129 mm Hg @ 20℃ (68°F)based on THF

Methyl Ethyl Ketone (MEK) Cyclohexanone

Toxicity:

Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)

Inhalation 4 hrs. 8,000 PPM (rat)

Reproductive Effects Sensitization to Product Synergistic Products Teratogenicity Mutagenicity **Embryotoxicity** Not Established Not Established Not Established Not Established Not Established Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

None Known

Mobility:

In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 490 g/l.

Degradability: Biodegradable Bioaccumulation: Minimal to none

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION Proper Shipping Name:

Hazard Class: Secondary Risk:

Adhesives

None

EXCEPTION for Ground Shipping DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.

Identification Number: UN 1133 Packing Group: PG II

Label Required: Marine Pollutant:

Class 3 Flammable Liquid

NO

Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" TDG INFORMATION

FLAMMABLE LIQUID 3 TDG CLASS: SHIPPING NAME: **ADHESIVES** UN NUMBER/PACKING GROUP: UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant F. Xi

Symbols: Risk Phrases:

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

R11: Highly flammable.

R66: Repeated exposure may cause skin dryness or cracking

Safety Phrases:

R36/37: Irritating to eyes and respiratory system.

S16: Keep away from sources of ignition - No smoking.

R67: Vapors may cause drowsiness and dizziness S25: Avoid contact with eyes.

S2: Keep out of the reach of children S9: Keep container in a well-ventilated place.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S33: Take precautionary measures against static discharges.

SECTION 16 - OTHER INFORMATION

Specification Information:

Department issuing data sheet:

IPS, Safety Health & Environmental Affairs

<EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

E-mail address: Training necessary:

Yes, training in practices and procedures contained in product literature.

3/9/2010 / Updated GHS Standard Format

Reissue date / reason for reissue: Solvent Cement for CPVC Plastic Pipe Intended Use of Product:

GHS SAFETY DATA SHEET

TYCO FLOWGUARD Beige Low VOC Cement for CPVC Plastic Pipe

Date Revised: MAR 2010

Supersedes:

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

TYCO FLOWGUARD Beige Low VOC Cement for CPVC Plastic Pipe

PRODUCT USE:

Low VOC Solvent Cement for CPVC Plastic Pipe

SUPPLIER:

MANUFACTURER: **IPS Corporation**

17109 South Main Street, Carson, CA 90248-3127

P.O. Box 379, Gardena, CA 90247-0379

Tel. 1-310-898-3300

EMERGENCY: Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)

Medical: Tel. 800.451.8346, 760.602.8703 3E Company (International)

Physical

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health Acute Toxicity: Category 4 Skin Irritation: Category 3 Skin Sensitization:

NO Category 2B

Environmental None Known Chronic Toxicity: None Known

Flammable Liquid

Category 2

Eye: GHS LABEL:



OR



Acute Toxicity:



Signal Word: Danger

WHMIS CLASSIFICATION:

CLASS B, DIVISION 2



Hazard Statements

H225: Highly flammable liquid and vapor

H319: Causes serious eye irritation

H332: Harmful if inhaled

H335: May cause respiratory irritation H336: May cause drowsiness or dizziness EUH019: May form explosive peroxides

Precautionary Statements

P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking

P261: Avoid breathing dust/fume/gas/mist/vapors/spray

P280: Wear protective gloves/protective clothing/eye protection/face protection

P337+P313: Get medical advice/attention

P403+P233: Store in a well ventilated place. Keep container tightly closed P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS#	REACH	CONCENTRATION
	3,2,2,0,4,0	CATALOGUE AND SAFE	Pre-registration Number	% by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	30 - 60
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	5 - 25
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 20

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing. Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.

Skin contact: Inhalation: Ingestion:

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice. Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice. Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Sultable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog. **HMIS** NFPA 0-Minimal Unsuitable Extinguishing Media: Water spray or stream. Health 2 2 1-Slight Exposure Hazards: Inhalation and dermal contact Flammability 3 3 2-Moderate **Combustion Products:** Oxides of carbon, hydrogen chloride and smoke Reactivity n 0 3-Serious Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks 4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.

Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.

Prevent contact with skin or eyes (see section 8).

Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course. Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel. Methods for Cleaning up:

Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.

Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.

Do not eat, drink or smoke while handling.

Store in ventilated room or shade below 33 °C (90 °F) and away from direct sunlight. Storage:

Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION EXPOSURE LIMITS: **ACGIHTLY** ACGIH STEL OSHA PEL OSHA STEL:

Component Tetrahydrofuran (THF 50 ppm 100 ppm 200 ppm Methyl Ethyl Ketone (MEK) 200 ppm 200 ppm 300 ppm Cyclohexanone 20 ppm 50 ppm 50 ppm

Engineering Controls: Use local exhaust as needed.

Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

etc. as may be appropriate for the exposure.

Personal Protective Equipment (PPE):

Skin Protection:

Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields,

Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.

Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application

practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventillated room. Open doors and/or windows to ensure airflow and air changes. Use local

exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

Appearance: Beige, heavy syrupy liquid

Odor:

pH: Not Applicable

Melting/Freezing Point: -108.5 ℃ (-163.3 °F) Based on first melting component: THF

66 ℃ (151 °F) Based on first boiling component: THF **Boiling Point:** -20 °C (-4 °F) TCC based on THF

Flash Point:

Specific Gravity: 0.995 @23℃ (73℉)

Solubility: Solvent portion soluble in water. Resin portion separates out.

Partition Coefficient n-octanol/water: Not Available

Auto-ignition Temperature: 321 °C (610 °F) based on THF

Decomposition Temperature:

Not Applicable

Stable

Other Data: Viscosity: When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 490 g/l.

Keep away from heat, sparks, open flame and other ignition sources.

SECTION 10 - STABILITY AND REACTIVITY

Stability:

Hazardous decomposition products:

Conditions to avoid:

Incompatible Materials:

VOC Content:

Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Acute symptoms and effects:

Inhalation, Eye and Skin Contact

Inhalation:

Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages. Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Eye Contact: Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

Ingestion:

May cause nausea, vomiting, diarrhea and mental sluggishness. None known to humans

Chronic (long-term) effects: Toxicity:

LD₅₀

Oral: 2842 mg/kg (rat) Tetrahydrofuran (THF) Methyl Ethyl Ketone (MEK)

Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)

LC50 Inhalation 3 hrs. 21,000 mg/m3 (rat)

Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)

Inhalation 8 hrs. 23.500 mg/m3 (rat) Inhalation 4 hrs. 8,000 PPM (rat)

None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

Odor Threshold:

Boiling Range:

Flammability:

Vapor Pressure:

Vapor Density:

Evaporation Rate:

Flammability Limits:

0.88 ppm (Cyclohexanone)

> 1.0 (BUAC = 1)

Category 2

<2 (Air = 1)

Heavy bodied

66°C (151°F) to 156°C (313°F)

UEL: 11.8% based on THF

LEL: 1.1% based on Cyclohexanone

129 mm Hg @ 20℃ (68°F)based on THF

Reproductive Effects **Teratogenicity** Mutagenicity Embryotoxicity Sensitization to Product Synergistic Products Not Established Not Established Not Established Not Established Not Established Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Cyclohexanone

None Known

Mobility:

In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 490 g/l.

Degradability: Biodegradable Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Hazard Class:

Packing Group:

Label Required:

Marine Pollutant:

Adhesives

Secondary Risk: Identification Number: 3

None

UN 1133

PG II

Class 3 Flammable Liquid

NO

TDG INFORMATION

TDG CLASS: SHIPPING NAME

FLAMMABLE LIQUID 3 **ADHESIVES**

EXCEPTION for Ground Shipping

Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D"

UN NUMBER/PACKING GROUP:

UN 1133, PG II

DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant

Symbols: Risk Phrases:

R11: Highly flammable.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

R36/37: Irritating to eyes and respiratory system.

R66: Repeated exposure may cause skin dryness or cracking R67: Vapors may cause drowsiness and dizziness

Safety Phrases: S2: Keep out of the reach of children L

S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking.

<EHSinfo@ipscorp.com>

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S33: Take precautionary measures against static discharges.

SECTION 16 - OTHER INFORMATION

Specification Information:

Department issuing data sheet:

IPS, Safety Health & Environmental Affairs

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

E-mail address: Training necessary:

Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue:

3/9/2010 / Updated GHS Standard Format

Intended Use of Product: Solvent Cement for CPVC Plastic Pipe

GHS SAFETY DATA SHEET

TYCO CORZAN CLR Low VOC Primer for PVC and CPVC Plastic Pipe

Date Revised: MAR 2010

Supersedes:

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

TYCO CORZAN CLR Low VOC Primer for PVC and CPVC Plastic Pipe

PRODUCT USE:

Low VOC Primer for PVC and CPVC Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation

17109 South Main Street, Carson, CA 90248-3127

P.O. Box 379, Gardena, CA 90247-0379

Tel. 1-310-898-3300

EMERGENCY: Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)

Medical: Tel. 800.451.8346, 760.602.8703 3E Company (International)

Physical

SECTION 2 - HAZARDS IDENTIFICATION

NO

GHS CLASSIFICATION:

Health Acute Toxicity: Category 4 Skin Irritation:

Acute Toxicity: Chronic Toxicity: Category 3

None Known None Known

Environmental

Flammable Liquid

Category 2

Skin Sensitization: Eve:

GHS LABEL:

Category 2B

OR

Signal Word: Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2

Hazard Statements

H225: Highly flammable liquid and vapor H319: Causes serious eve irritation H332: Harmful if inhaled H335: May cause respiratory irritation H336: May cause drowsiness or dizziness

EUH019: May form explosive peroxides

Precautionary Statements P210: Keep away from heal/sparks/open flames/hot surfaces - No smoking P261: Avoid breathing dust/fume/gas/mist/vapors/spray

P280: Wear protective gloves/protective clothing/eye protection/face protection

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P403+P233: Store in a well ventilated place. Keep container tightly closed 2501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

REACH CONCENTRATION Pre-registration Number % by Weight Tetrahydrofuran (THF) 109-99-9 203-726-8 05-2116297729-22-0000 Methyl Ethyl Ketone (MEK) 78-93-3 201-159-0 05-2116297728-24-0000 19 - 29 Cyclohexanone 108-94-1 203-631-1 05-2116297718-25-0000 5 - 15 67-64-1 Acetone 200-662-2 05-2116297713-35-0000

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing. Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

SECTION 4 - FIRST AID MEASURES

Contact with eyes:

Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.

Skin contact: Inhalation: Ingestion:

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If Irritation develops, seek medical advice. Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice. Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog. **HMIS** NFPA 0-Minimal Unsuitable Extinguishing Media: Health 2 1-Slight Water spray or stream 2 **Exposure Hazards:** Inhalation and dermal contact 3 3 Flammability 2-Moderate **Combustion Products:** 0 0 Oxides of carbon and smoke Reactivity 3-Serious Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks. 4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep away from heat, sparks and open flame.

Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.

Prevent contact with skin or eyes (see section 8).

Environmental Precautions: Methods for Cleaning up:

Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course. Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.

Materials not to be used for clean up:

Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.

Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.

Do not eat, drink or smoke while handling.

Store in ventilated room or shade below 44 °C (110 °F) and away from direct sunlight.

Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS: Component ACGIH TLV ACGIH STEL OSHA PEL OSHA STEL: Tetrahydrofuran (THF) 50 ppm 100 ppm 200 ppm Methyl Ethyl Ketone (MEK) 200 ppm 300 ppm 200 ppm Cyclohexanone 20 ppm 50 ppm 50 ppm 500 ppm 750 ppm Acetone

Engineering Controls: Use local exhaust as needed.

Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

Eve Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields,

etc. as may be appropriate for the exposure.

Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.

Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application

practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airliow and air changes. Use local

exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

Appearance: Clear, thin liquid Odor: Ethereal

pH: Not Applicable

Melting/Freezing Point:

-108.5°C (-163.3°F) Based on first melting component: THF **Boiling Point:** 56 °C (133 °F) Based on first boiling component: Acetone

Flash Point: -20 °C (-4 °F) TCC based on Acetone Specific Gravity: 0.858 @23°C (73°F)

Solubility: Solvent portion soluble in water. Resin portion separates out.

Partition Coefficient n-octanol/water: **Auto-ignition Temperature:** 321 ℃ (610 °F) based on THF

Decomposition Temperature: Not Applicable **VOC Content:**

Not Available

Vapor Density: Other Data: Viscosity:

When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 550 g/l.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid. Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

May cause nausea, vomiting, diarrhea and mental sluggishness.

Ingestion:

Chronic (long-term) effects: None known to humans 1 Dsn

Toxicity: Tetrahydrofuran (THF) Oral: 2842 mg/kg (rat)

Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) Methyl Ethyl Ketone (MEK)

Cyclohexanone Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit) Acetone Oral: 5800 mg/kg (rat)

Inhalation 3 hrs. 21,000 mg/m3 (rat) Inhalation 8 hrs. 23,500 mg/m3 (rat) Inhalation 4 hrs. 8,000 PPM (rat) Inhalation 50,100 mg/m3 (rat)

LC50

Odor Threshold:

Boiling Range:

Flammability:

Evaporation Rate:

Flammability Limits:

Vapor Pressure:

0.88 ppm (Cyclohexanone)

> 1.0 (BUAC = 1)

Category 2

>2.0 (Air = 1)

Water-thin

56°C (133°F) to 156°C (313°F)

UEL: 12.8% based on Acetone

LEL: 1.1% based on Cyclohexanone

190 mm Hg @ 20 °C (68 °F) Acetone

Reproductive Effects Sensitization to Product Teratogenicity Mutagenicity Embryotoxicity Synergistic Products Not Established Not Established Not Established Not Established Not Established Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

None Known

Mobility: Degradability: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 550 g/l.

Biodegradable Bioaccumulation: Minimal to none

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Flammable Liquid, n.o.s. (Tetrahydrofuran, Methyl Ethyl Ketone)

Hazard Class:

Secondary Risk: None Identification Number: UN 1993

Packing Group:

PG II

Class 3 Flammable Liquid Label Required:

Marine Pollutant:

NO

TDG INFORMATION FLAMMABLE LIQUID 3

TDG CLASS: SHIPPING NAME:

Flammable Liquid, n.o.s. (Tetrahydrofuran, Methyl Ethyl Ketone) UN NUMBER/PACKING GROUP: UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant Symbols:

R11: Highly flammable.

R20: Harmful by inhalation.

R36/37: Irritating to eyes and respiratory system.

S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking.

S25: Avoid contact with eyes.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia

AICS, Korea ECL/TCCL, Japan MITI (ENCS)

EXCEPTION for Ground Shipping

Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D"

R66: Repeated exposure may cause skin dryness or cracking

R67: Vapors may cause drowsiness and dizziness

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.

S33: Take precautionary measures against static discharges.

All ingredients are compliant with the requirements of the European

S46: If swallowed, seek medical advise immediately and show this container or label.

SECTION 16 - OTHER INFORMATION

Specification Information:

Risk Phrases:

Safety Phrases:

Department issuing data sheet: IPS, Safety Health & Environmental Affairs E-mail address:

<EHSinfo@ipscorp.com> Directive on RoHS (Restriction of Hazardous Substances).

Training necessary:

Yes, training in practices and procedures contained in product literature.

Reissue date / reason for reissue: Intended Use of Product:

3/9/2010 / Updated GHS Standard Format Primer for PVC and CPVC Plastic Pipe

GHS SAFETY DATA SHEET

TYCO CORZAN GRY Low VOC Cement for CPVC Plastic Pipe

Date Revised: MAR 2010

Supersedes:

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

TYCO CORZAN GRY Low VOC Cement for CPVC Plastic Pipe

PRODUCT USE:

Low VOC Solvent Cement for CPVC Plastic Pipe

SUPPLIER:

MANUFACTURER:

IPS Corporation

17109 South Main Street, Carson, CA 90248-3127

P.O. Box 379, Gardena, CA 90247-0379

Tel. 1-310-898-3300

EMERGENCY: Transportation: Tel. 800.424.9300, 703.527.3887 CHEMTREC (International)

Medical: Tel. 800.451.8346, 760.602.8703 3E Company (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health Acute Toxicity: Category 4 Skin Irritation:

Acute Toxicity: Category 3

Environmental None Known None Known

Physical Flammable Liquid

Category 2

Skin Sensitization: Eye:

NO Category 2B Chronic Toxicity:

GHS LABEL:







Signal Word: Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2

H225: Highly flammable liquid and vapor H319: Causes serious eye irritation H335: May cause respiratory irritation H336: May cause drowsiness or dizziness

EUH019: May form explosive peroxides

Hazard Statements

OR

Precautionary Statements

P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking

HMIS

NFPA

0-Minimal

2-Moderate

3-Serious

4-Severe

1-Slight

P261: Avoid breathing dust/fume/gas/mist/vapors/spray

P280: Wear protective gloves/protective clothing/eye protection/face protection

P337+P313: Get medical advice/attention

403+P233: Store in a well ventilated place. Keep container tightly closed P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS#	REACH	CONCENTRATION % by Weight	
			Pre-registration Number		
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	40 - 70	
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	2 - 15	
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	5 - 20	

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing. Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

SECTION 4 - FIRST AID MEASURES

Contact with eyes:

Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.

Skin contact: Inhalation:

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice. Remove to fresh air. If breathing is stopped, give artilicial respiration. If breathing is difficult, give oxygen. Seek medical advice. Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately

Ingestion: **SECTION 5 - FIREFIGHTING MEASURES**

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog. Unsuitable Extinguishing Media: Water spray or stream. **Exposure Hazards:** Inhalation and dermal contact **Combustion Products:**

Health 2 2 Flammability 3 3 Oxides of carbon, hydrogen chloride and smoke Reactivity 0 0 Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions:

Protection for Firefighters:

Keep away from heat, sparks and open flame.

Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.

Prevent contact with skin or eyes (see section 8).

Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.

Methods for Cleaning up:

Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel. Aluminum or plastic containers

Materials not to be used for clean up:

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.

Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.

Do not eat, drink or smoke while handling.

Store in ventilated room or shade below 33 °C (90 °F) and away from direct sunlight.

Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:	Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL:
	Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	
	Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	
	Cyclohexanone	20 ppm	50 ppm	50 ppm	

Engineering Controls:

Eve Protection:

Use local exhaust as needed.

Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.

Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion. Skin Protection:

Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application

practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

Gray, heavy syrupy liquid Appearance:

Odor: Ketone

pH: Not Applicable

. Melting/Freezing Point:

-108.5 °C (-163.3 °F) Based on first melting component: THF 66 ℃ (151 °F) Based on first boiling component: THF **Boiling Point:**

-20 °C (-4 °F) TCC based on THF Flash Point:

0.984 @23°C (73°F) Specific Gravity:

Solvent portion soluble in water. Resin portion separates out. Solubility:

Partition Coefficient n-octanol/water: Not Available

Auto-ignition Temperature:

Decomposition Temperature: Not Applicable

Vapor Pressure: 321 °C (610 °F) based on THF Vapor Density: Other Data: Viscosity:

When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 490 g/l.

Keep away from heat, sparks, open flame and other ignition sources.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Hazardous decomposition products:

Conditions to avoid:

Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Incompatible Materials:

Inhalation: **Eye Contact:**

VOC Content:

Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages. Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact. May cause nausea, vomiting, diarrhea and mental sluggishness.

Ingestion:

Chronic (long-term) effects: None known to humans

Toxicity:

LD₅₀

Tetrahydrofuran (THF) Oral: 2842 mg/kg (rat)

Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)

LC50

Inhalation 3 hrs. 21,000 mg/m3 (rat) Inhalation 8 hrs. 23,500 mg/m3 (rat)

None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.

Odor Threshold:

Boiling Range:

Flammability:

Evaporation Rate:

Flammability Limits:

0.88 ppm (Cyclohexanone)

> 1.0 (BUAC = 1)

Category 2

>2 (Air = 1)

Heavy bodied

66℃ (151°F) to 156°C (313°F)

UEL: 11.8% based on THF

LEL: 1.1% based on Cyclohexanone

129 mm Hg @ 20 ℃ (68 °F)based on THF

Methyl Ethyl Ketone (MEK) Inhalation 4 hrs. 8,000 PPM (rat) Cyclohexanone Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)

Sensitization to Product Synergistic Products Reproductive Effects Mutagenicity **Embryotoxicity** Teratogenicity Not Established Not Established Not Established Not Established Not Established Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

None Known

In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 490 g/l. Mobility:

Degradability: Biodegradable

Bioaccumulation: Minimal to none

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:

Adhesives

Hazard Class: Secondary Risk:

None

UN 1133

Identification Number: PG II

Packing Group: Label Required: Marine Pollutant:

Class 3 Flammable Liquid

TDG CLASS:

TDG INFORMATION

FLAMMABLE LIQUID 3 SHIPPING NAME:

UN NUMBER/PACKING GROUP:

ADHESIVES UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant

Symbols:

F. Xi

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia

EXCEPTION for Ground Shipping

Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D"

DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.

AICS, Korea ECL/TCCL, Japan MITI (ENCS)

Risk Phrases:

R11: Highly flammable.

R66: Repeated exposure may cause skin dryness or cracking

Safety Phrases:

R36/37: Irritating to eyes and respiratory system.

R67: Vapors may cause drowsiness and dizziness

S2: Keep out of the reach of children

S9: Keep container in a well-ventilated place.

S25: Avoid contact with eyes.

S16: Keep away from sources of ignition - No smoking.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S33: Take precautionary measures against static discharges.

SECTION 16 - OTHER INFORMATION

Specification Information:

Department issuing data sheet: E-mail address:

IPS, Safety Health & Environmental Affairs <EHSinfo@ipscorp.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Training necessary:

Yes, training in practices and procedures contained in product literature.

3/9/2010 / Updated GHS Standard Format Reissue date / reason for reissue: Solvent Cement for CPVC Plastic Pipe Intended Use of Product: