Version	Revision Date:	SDS Number:	Print Date: 2024-10-03
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SECTION 1. IDENTIFICATION

Product name : NGL C2+ Mix

Product code : X3532, X3530, X3533, X3536, X3547, X3534, X3541, X3542

Manufacturer or supplier's details

Manufacturer/Supplier : **Shell Chemicals Canada**
PO Box 4280 STN C
CALGARY AB T2T 5Z5
Canada

Telephone : 1-855-697-4355

Telefax : 1-866-213-7508

Emergency telephone number

CHEMTREC (24 hr) : 1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Used as a domestic, commercial, industrial and automotive fuel, a feedstock in chemical processes.

Restrictions on use : This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable gases : Category 1

Gases under pressure : Compressed gas

Reproductive toxicity : Category 2

Aspiration hazard : Category 1

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
HEALTH HAZARDS:
H361 Suspected of damaging fertility or the unborn child.
H304 May be fatal if swallowed and enters airways.
ENVIRONMENTAL HAZARDS:
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Storage:
P403 Store in a well-ventilated place.

Other hazards which do not result in classification
Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.
This material has the potential to be a static accumulator.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name : NGL C2+ Mix

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
ethane	74-84-0	30 - 60
propane	74-98-6	10 - 30
butane	106-97-8	10 - 30
pentane	109-66-0	3 - 7
n-Hexane	110-54-3	1 - 5

methane	74-82-8	1 - 5

Further information

Contains:

Chemical name	Identification number	Concentration (% w/w)
1,3-butadiene	106-99-0	< 0.1

SECTION 4. FIRST-AID MEASURES

If inhaled : Remove to fresh air.
If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. If heartbeat absent, give external cardiac compression. Monitor breathing and pulse. Seek urgent medical advice.

In case of skin contact : Do not remove clothing that adheres to skin due to freezing.
In the event of frostbite, slowly warm the exposed area by rinsing with warm water. Otherwise:
Obtain medical treatment immediately.
Contaminated clothing may be a fire hazard and therefore should be soaked with water before being removed.
Loosen tight clothing.
Keep warm and at rest.

In case of eye contact : DO NOT DELAY.
Obtain medical treatment immediately.
In the event of frostbite, slowly warm the exposed area by rinsing with warm water. Otherwise:
Remove contact lenses, if present and easy to do. Continue rinsing.

If swallowed : In the unlikely event of ingestion, obtain medical attention immediately.

If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Most important symptoms and effects, both acute and delayed : High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Notes to physician : Treat symptomatically.
Consider: oxygen therapy.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out. Dry chemical Carbon dioxide (CO2) Keep containers and surroundings cool with water spray. Large fires should only be fought by properly trained fire fighters.
Unsuitable extinguishing media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire.
Specific hazards during fire-fighting	:	Hazardous combustion products may include: Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds. Sustained fire attack on vessels may result in a Boiling Liquid Expanding Vapor Explosion (BLEVE). Contents are under pressure and can explode when exposed to heat or flames. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Further information	:	Clear fire area of all non-emergency personnel. Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately.
Special protective equipment for firefighters	:	Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter. Test atmosphere for flammable gas concentrations to ensure safe working conditions before personnel are allowed to enter the area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Vapour may form an explosive mixture with air.
Environmental precautions	:	Use appropriate containment to avoid environmental contami-

nation.

Methods and materials for containment and cleaning up	:	Allow to evaporate. Attempt to disperse the gas or to direct its flow to a safe location, for example by using fog sprays. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. Avoid contact with skin, eyes and clothing.
Additional advice	:	For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet. Local authorities should be advised if significant spillages cannot be contained.

SECTION 7. HANDLING AND STORAGE

General Precautions	:	Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Take precautionary measures against static discharges.
Advice on safe handling	:	This product can create a low temperature exposure hazard when released as a liquid. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid prolonged or repeated contact with skin. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Earth all equipment. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. This product is intended for use in closed systems only. Ensure that all local regulations regarding handling and storage facilities are followed.
Avoidance of contact	:	Strong oxidising agents.
Product Transfer	:	Do not use compressed air for filling discharge or handling.

Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge. Delivery lines may become cold enough to present a cold burns hazard.

Storage

Other data : Store only in purpose-designed, appropriately labelled pressure vessels or cylinders.
Must be stored in a well-ventilated area, away from sunlight, ignition sources and other sources of heat.
Do not store near cylinders containing compressed oxygen or other strong oxidizers.
Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material : Suitable material: For containers and container linings, use materials specifically approved for use with this product., Examples of suitable materials are: PA-11, PEEK, PVDF, PTFE, GRE (Epoxy), GRVE (vinyl ester), Viton (FKM), type F and GB, Neoprene (CR).
Unsuitable material: Some forms of cast iron., Examples of materials to avoid are: ABS, polymethyl methacrylate (PMMA), polyethylene (PE / HDPE), polypropylene (PP), PVC, natural rubber (NR), Nitrile (NBR) ethylene propylene rubber (EPDM), Butyl (IIR), Hypalon (CSM), polystyrene, polyvinyl chloride (PVC), polyisobutylene., For containers and container linings, aluminium should not be used if there is a risk of caustic contamination of the product.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
butane	106-97-8	STEL	1,000 ppm	ACGIH
pentane	109-66-0	TWA	1,000 ppm	CA BC OEL
		TWA	1,000 ppm	ACGIH
n-Hexane	110-54-3	TWA	50 ppm	ACGIH
		TWA	500 ppm	OSHA Z-1

			1,800 mg/m3	
		TWA	50 ppm 180 mg/m3	NIOSH REL

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
n-Hexane	110-54-3	2,5-Hexanedione	Urine	End of shift	0.5 mg/l	ACGIH BEI

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.
Appropriate measures include:
Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Firewater monitors and deluge systems are recommended.

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Select a filter suitable for organic gases and vapours [Type AX boiling point ≤65°C (149°F)].

Hand protection

Remarks : Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Neoprene rubber. Nitrile rubber. If contact with liquefied product is possible or anticipated, gloves should be thermally insulated to prevent cold burns. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thick-

ness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection : Wear goggles for use against liquids and gas, combined with face shield with chin guard.

Skin and body protection : Chemical and cold resistant gloves/gauntlets, boots, and apron.

Thermal hazards : When handling cold material that can cause frost burns, wear cryogenic gloves, safety hat and visor, cold resistant overalls (with cuffs over gloves and legs over boots) and heavy duty boots e.g. leather for cold resistance.

Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Information on accidental release measures are to be found in section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquefied gas

Colour : colourless

Odour : Hydrocarbon

Odour Threshold : Data not available

pH : Not applicable

Freezing point : Data not available

Initial boiling point and boiling range : ca. -162 - 68 °C / -260 - 154 °F

Flash point : < -50 °C / < -58 °F

Evaporation rate : Data not available

Flammability
Flammability (solid, gas) : Extremely flammable.

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit	:	ca. 13 %(V)
Lower explosion limit	:	Typical 1.9 %(V)
Vapour pressure	:	Data not available
Relative vapour density	:	Data not available
Relative density	:	Data not available
Density	:	Data not available
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	Data not available
Auto-ignition temperature	:	Typical >= 225 °C / >= 437 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Classification Code: Not classified
Conductivity	:	Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semiconductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No, product will not become self-reactive.
Chemical stability	:	Stable.
Possibility of hazardous reactions	:	No hazardous reaction is expected when handled and stored according to provisions

Conditions to avoid	:	Heat, open flames, sparks and flammable atmospheres.
Incompatible materials	:	Strong oxidising agents.
Hazardous decomposition products	:	Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure
Inhalation is the primary route of exposure although exposure may occur through skin or eye contact.

Acute toxicity

Product:

Acute oral toxicity : Remarks: Not applicable

Acute inhalation toxicity : LC 50 (Rat): > 2,000 mg/l
Exposure time: 4 h
Remarks: Expected to be of low toxicity:

Acute dermal toxicity : Remarks: Not applicable

Components:

pentane:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC50 (Rat, male and female): > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Remarks: Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Not irritating to skin.

Components:

pentane:
Species: Rabbit
Method: Test(s) equivalent or similar to OECD Test Guideline 404
Remarks: Slightly irritating to skin.
Insufficient to classify.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be slightly irritating.

Components:

pentane:
Species: Rabbit
Method: OECD Test Guideline 405
Remarks: Slightly irritating.
Insufficient to classify.

Respiratory or skin sensitisation

Product:

Remarks: Not expected to be a sensitiser.

Components:

pentane:
Species: Guinea pig
Method: OECD Test Guideline 406
Remarks: Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

Genotoxicity in vivo : Remarks: Contains 1,3-butadiene.
May cause heritable genetic damage

Components:

pentane:

Genotoxicity in vitro : Method: Test(s) equivalent or similar to OECD Guideline 471
Remarks: Based on available data, the classification criteria are not met.

: Method: Directive 67/548/EEC, Annex V, B.10.
Remarks: Based on available data, the classification criteria are not met.

Genotoxicity in vivo : Species: Rat

Method: Directive 67/548/EEC, Annex V, B.12.
Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Remarks: Contains 1,3-butadiene.
Known human carcinogen.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility :
Remarks: Not expected to impair fertility.
Not a developmental toxicant.

Components:

pentane:

Effects on fertility :
Species: Rat
Sex: male and female
Application Route: Inhalation

Method: Equivalent or similar to OECD Test Guideline 416
Remarks: Based on available data, the classification criteria are not met.

Effects on foetal development : Species: Rat, female
Application Route: Oral
Method: OECD Test Guideline 414
Remarks: Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

Remarks: High concentrations may cause central nervous system depression resulting in head-

aches, dizziness and nausea.

Components:

pentane:
Exposure routes: Inhalation
Target Organs: Central nervous system
Remarks: May cause drowsiness or dizziness.

STOT - repeated exposure

Product:

Remarks: Low systemic toxicity on repeated exposure.

Components:

pentane:
Remarks: Based on available data, the classification criteria are not met.

Repeated dose toxicity

Components:

pentane:
Species: Rat, male and female
Application Route: Inhalation
Test atmosphere: Gas
Method: OECD Test Guideline 413
Target Organs: No specific target organs noted

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Components:

pentane:
Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Further information

Product:

Remarks: Rapid release of gases which are liquids under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling.
High gas concentrations will displace available air; unconsciousness and death may occur suddenly from lack of oxygen.
Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Components:

pentane:
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing, and/or similar products, and/or components.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Physical properties indicate that petroleum gases will rapidly volatilise from the aquatic environment and that acute and chronic effects would not be observed in practice.

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) :
Remarks: Expected to be harmful:
LL/EL/IL50 >10 <= 100 mg/l

Toxicity to crustacean (Acute toxicity) :
Remarks: Expected to be harmful:
LL/EL/IL50 >10 <= 100 mg/l

Toxicity to algae/aquatic plants (Acute toxicity) :
Remarks: Expected to be harmful:
LL/EL/IL50 >10 <= 100 mg/l

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) : Remarks: Expected to be harmful:
LL/EL/IL50 >10 <= 100 mg/l

Components:

pentane:

Toxicity to fish (Acute toxicity) : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.26 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Toxic
LL/EL/IL50 > 1 <= 10 mg/l

Toxicity to crustacean (Acute toxicity)	:	EC50 (Daphnia magna (Water flea)): 2.7 mg/l Exposure time: 48 h Method: Test(s) equivalent or similar to OECD Guideline 202 Remarks: Toxic LL/EL/IL50 > 1 <= 10 mg/l
Toxicity to algae/aquatic plants (Acute toxicity)	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 10.7 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Harmful LL/EL/IL50 >10 <= 100 mg/l
Toxicity to fish (Chronic toxicity)	:	NOELR (Oncorhynchus mykiss (rainbow trout)): 6.165 mg/l Exposure time: 28 d Method: Based on quantitative structure-activity relationship (QSAR) modelling Remarks: NOEC/NOEL > 1.0 - <= 10 mg/l
Toxicity to crustacean(Chronic toxicity)	:	NOELR (Daphnia magna (Water flea)): 10.76 mg/l Exposure time: 21 d Method: Based on quantitative structure-activity relationship (QSAR) modelling Remarks: no data available
Toxicity to bacteria	:	NOEL (Tetrahymena pyriformis): 23.7 mg/l Exposure time: 48 h Method: Based on quantitative structure-activity relationship (QSAR) modelling Remarks: NOEC/NOEL >100 mg/l

Persistence and degradability

Product:

Biodegradability	:	Remarks: Expected to be readily biodegradable.

Components:

pentane:

Biodegradability	:	Biodegradation: 87 % Exposure time: 28 d Method: Test(s) equivalent or similar to OECD Guideline 301 F Remarks: Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Not expected to bioaccumulate significantly.

Partition coefficient: n-octanol/water : Remarks: Data not available

Components:

pentane:

Bioaccumulation : Species: Pimephales promelas (fathead minnow)
Bioconcentration factor (BCF): 171
Method: Based on quantitative structure-activity relationship (QSAR) modelling
Remarks: Does not bioaccumulate significantly.

Mobility in soil

Product:

Mobility : Remarks: Floats on water.
Contains volatile components.

Components:

pentane:

Mobility : Remarks: Floats on water.
If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

Other adverse effects

Product:

Additional ecological information : In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

Components:

pentane:

Results of PBT and vPvB assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

Additional ecological information : In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Waste arising from a spillage or tank cleaning should be dis-

posed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Do not dispose into the environment, in drains or in water courses.
Given the nature and uses of this product, the need for disposal seldom arises. If necessary, dispose by controlled combustion in purpose-designed equipment. If this is not possible, contact the supplier.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard.
Do not pollute the soil, water or environment with the waste container.
Return part-used or empty cylinders to the supplier.
For tanks seek specialist advice from suppliers.
Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

Local legislation
Remarks : Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14. TRANSPORT INFORMATION

TDG

UN number	:	1075
Proper shipping name	:	PETROLEUM GASES, LIQUEFIED
Class	:	2.1
Packing group	:	Not Assigned
Labels	:	2.1
Marine pollutant	:	no

International Regulations

IATA-DGR

UN/ID No.	:	UN 1075
Proper shipping name	:	PETROLEUM GASES, LIQUEFIED
Class	:	2.1
Packing group	:	Not Assigned
Labels	:	2.1

IMDG-Code

UN number	:	UN 1075
Proper shipping name	:	PETROLEUM GASES, LIQUEFIED

Class	:	2.1
Packing group	:	Not Assigned
Labels	:	2.1
Marine pollutant	:	no

Maritime transport in bulk according to IMO instruments

Special precautions	:	Not applicable

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.
The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

The components of this product are reported in the following inventories:

AICS	:	Listed
DSL	:	Listed
IECSC	:	Listed
ENCS	:	Listed
KECI	:	Listed
NZIoC	:	Listed
PICCS	:	Listed
CH INV	:	Listed
TSCA	:	Listed

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for

Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Due to the conversion of this product to GHS classification and labelling, there has been a significant change to the nature of the information presented in Section 2.
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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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