LIQUIFIED NATURAL GAS

SECTION 1 : IDENTIFICATION

Product identifier : Liquefied Natural Gas

Product identification code : N/A

Other means of identification : LNG, liquid natural gas, natural gas in a liquid state

Recommended use : Fuel or fuel supply for various processes
Mixture of petroleum hydrocarbons

Restrictions on use : Not available

Supplier :
Gaz Métro GNL s.e.c.
Energir, LSR Plant
11201 Boul. Henri-Bourassa Est
Montreal (Québec) Canada H1C 1H2
Phone: 514 598 3339

Emergency phone number :

CANUTEC	1 (888) CANUTEC (226-8832) 1 (613) 996-6666 (collect calls accepted) * 666 on a cellphone (Canada only)	24 h / 7 days	Several languages spoken
CHEMTREC	1 (800) 424-9300 1 (703) 527-3887	24 h / 7 days	English French
Quebec Poison Control Centre	1 (800) 463-5060	24 h / 7 days	English French

SECTION 2 : HAZARD IDENTIFICATION

Classification of the mixture

Hazard class	*Category*	*H Code*
Flammable gas	1A	H220
Gas under pressure	Liquefied gas	H280
Simple Asphyxiant	1	

GHS Label Elements

Signal Word

DANGER

Hazard Symbol(s)

Hazard Statement(s)

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Precautionary Statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response

P377 Leaking gas fire – do not extinguish unless leak can be stopped safely.

P381 Eliminate all ignition sources if safe to do so.

Storage

P403 Store in a well-ventilated area.

Disposal

N.A.

Other hazards which do not result in classification

Simple asphyxiant: Can displace oxygen and cause suffocation quickly.

SECTION 3 : COMPOSITION / INFORMATIONS ON INGREDIENTS

This product contains the following hazardous ingredients:

# CAS	Chemical Name	Concentration %	Synonym(s)	Chemical Formula
74-82-8	Methane	98,3		CH_4
74-84-0	Ethane	1,7		C_2H_6
75-66-1	Methyl-2-propanethiol-2	< 1	Mercaptan, odoriferous agent	$C_4H_{10}S$
N.D.	Other simple hydrocarbons			

Other ingredients may be included in the composition of the mixture. Ingredients excluded from the previous table are not classified as hazardous under the GHS.

SECTION 4 : FIRST-AID MEASURES

Description of necessary first-aid measures

Instructions for First Aid Attendants

For any situation where a hazardous chemical is involved, before intervening:

- Determine the product(s) concerned.
- Identify the type of contact (inhalation, ingestion, direct contact with skin or eyes).
- Always confirm that the premises are safe.
- Ensure that the rescued person is decontaminated and/or wear personal protective equipment such as gloves and a mask.

Remain alert to the signs or symptoms that the rescued person presents during the intervention. The clinical manifestations of intoxication are often very variable depending on the characteristics of the product, the person and the type of contact.

If the rescued person is not alert or awake, protect the cervical spine with your hand before stimulating the awakening of that person to avoid sudden movement of the head and spine. Never give anything by mouth to a person with altered state of consciousness.

If the rescued person is unconscious, alert the pre-hospital emergency services immediately and place the person in a safe lateral position, except in the presence of trauma, in which case the person must be left in the position where they were found. Ensure proper room ventilation and cover person if possible.

In case of cardiorespiratory arrest, apply the CPR sequence immediately. DO NOT USE THE MOUTH-TO-MOUTH METHOD: Assist ventilation with a bag-mask, if possible, or use a pocket mask with an appropriate one-way valve. Avoid inhaling exhaled air from rescued person.

Inform pre-hospital emergency services upon arrival and provide this SDS.

In case of inhalation

Bring the person outside or in a well-ventilated area to breathe fresh air and loosen clothing.

Promote the comfort position (except for head, neck or back trauma), lengthen the person or have him or her sit down, asking him or her to lower the head to his or her knees.

In case of eye contact

The rescuer should avoid rubbing or applying pressure to the eyes.

If the person wears contact lenses (contact lenses), ask them to remove them when possible.

Never remove a foreign object lodged in or on the eye: any attempt of this nature may aggravate the injury until the loss of the eye.

Rinse eyes thoroughly for at least 15 minutes by turning the head to the side of the affected eye so as not to contaminate the other eye during rinsing.

Have the rescued person turn their eye constantly and keep their eyelids apart with their fingers to thoroughly rinse the entire surface of the eye.

Sterile eye pads and an eye cover with elastic band can be used to make the dressing, if available. When it is not possible to close the eye, the dressing should be moistened (NaCl or sterile water). Any dressing applied to an eye should be non-concompressive.

In case of skin contact

Seek medical attention immediately if frostbite or blisters occur.

In case of ingestion

Drink water immediately (maximum 2 glasses).

Never induce vomiting unless otherwise informed by the Poison Control Centre.

Seek immediate medical attention.

Important symptoms and effects

See *Section 11: Toxicological information* for more details.

SIMPLE ASPHYXIANT: a physiologically inert gas that exerts its action by displacing oxygen from the air. If the percentage by volume of oxygen falls under 19.5%, there is not enough to maintain oxygen saturation in the blood.

Indication of immediate medical attention and special treatment needed, if necessary

Medical monitoring

Consult a doctor if irritation, blisters, discomfort or symptoms occur.

Show this SDS to the health professional, in case of medical consultation.

Treat according to the symptoms and reactions of the patient.

Occupational poisoning is part of the list of diseases, infections and intoxications reportable under the *Public Health Act (R.S.Q., c. S-2.2)*.

Antidote(s)

No data available on the antidotes to be administered in case of intoxication to this product.

Contraindication(s)

No data available on the applicable contraindications.

Other information

The Quebec Poison Control Centre (1-800-463-5060) can guide the first aid attendant or rescuer in the precautions to be taken and first aid to be given depending on the type of intoxication.

Before calling, collect as much information as possible on:

- The product in question.
- The route of absorption.
- The amount absorbed and the time elapsed since the event.
- The person's condition (signs and symptoms), age and approximate weight.
- The circumstances of the event (accidental or voluntary).
- First aid efforts undertaken.

SECTION 5 : FIRE-FIGHTING MEASURES

Suitable extinguishing media

☑ : Suitable
⊘ : Unsuitable

☑ Dry chemical powder
⊘ Alcohol-resistant foam
⊘ Carbon dioxide (CO_2)
⊘ Water
Other : Not available

Specific hazards arising from the product

Extremely flammable gases, liquids and vapours.

The vapours may form a flammable mixture with air, which, in case of ignition, may release an explosive force if in an enclosed space.

Risk of RPT (Rapid Phase Transition): the significant difference in temperature between the LNG and a hotter liquid may cause the "almost instantaneous" vaporization of the LNG. The sudden increase in total volume occupied by the LNG may generate a "cold explosion" shock wave (sudden generation of overpressure but without combustion).

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO_2), fumes.

Special protective actions for fire-fighters

Wear a supplied-air respirator near the leak to avoid any risk of asphyxiation.
Do not try to extinguish the fire if the gas leak cannot be stopped. Intervene at a distance, approaching downwind, if necessary. If needed, use a combustible gas detector (explosimeter).
Establish a security perimeter.
In case of fire, and if it can be done safely, close the gas inlet valve.

The vapours generated during a significant spill of liquefied gas may travel a long way to a distant ignition source and produce a flashback.

The spilled liquid may pool on the ground and flow toward lower points until the cloud temperature rise to more than -100°C.

Cool the exposed containers with water spray. Help the gas cloud to disperse using a water spray.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Actions to be taken in the event of an accidental spill or overflow

For non-emergency personnel

Suitable Protective Equipments

In case of risk of contact with refrigerated liquefied gas, wear a face shield and waterproof clothing resistant to low temperatures (apron, cryogenic gloves). Fireproof clothing may also be worn, depending on the nature of the work and the risk of fire.

See *Section 8: Exposure Controls / Personal protection* for more details.

Emergency Procedures

- Activate the Spill Emergency Plan.
- Evacuate non-essential personnel and establish a security perimeter.
- Evacuate the danger zone according to emergency procedures.
- Stop the spill or leak if it is safe to do so.
- Turn off or remove all sources of heat or potential ignition. Do not smoke.
- Avoid exposing the product or containers to abrasion, static electricity or friction.
- Avoid exposing products or containers to impacts, shocks or vibrations.
- Do not touch the liquid when spilling.
- Never respond alone during an important intervention.
- Ensure adequate ventilation.
- Consult with specialized stakeholders.

For emergency responders

Suitable Protective Equipments

In case of risk of contact with refrigerated liquefied gas, wear a face shield and waterproof clothing resistant to low temperatures (apron, cryogenic gloves). Fireproof clothing may also be worn, depending on the nature of the work and the risk of fire.

See *Section 8: Exposure Controls / Personal protection* for more details.

Use only in well-ventilated areas. See also OSHA regulations for handling this product, including 29 CFR 1910.110 Storage and handling of liquefied petroleum gases.

Other precautions

Ensure that the equipment used is grounded with an equipotential connection of containment and recovery equipment.

Environmental Precautions

Let the gas escape into the atmosphere.
Do not flush, or allow the LNG to flow, down the drain or into the sewer system. Check if combustible gas is present in the sewers, underground structures and buildings.
In case of a bottle leak, close the bottle and return it to the supplier.

In case of significant quantities, consult the regional office of the environmental authority that has jurisdiction.

Methods and materials for containment and cleaning up

Appropriate containment techniques

If possible, build a dike or other barrier to prevent dispersion and runoff of the spilled product. Cover drains and flow line.

Appropriate neutralization, decontamination and cleaning techniques

Allow the product to evaporate.

Equipment required for containment and clean up

The vapor cloud may be white, but the color dissipates, and the risk of fire and explosion is still present. Use water spray to disperse vapours. Isolate the area until the gas has dispersed. Ventilate and test the area before entering.

Use only grounded and non-sparking tools and equipment.

Other issues relating to spills and releases

Notify government authorities if there has been a significant release to the environment.

See *Section 13: Disposal considerations* for additional information regarding the disposal, recycling and recovery of the product.

SECTION 7 : HANDLING AND STORAGE

Precautions for safe handling of the product

Safe handling practices for users

Use only in well-ventilated zones. See also OSHA regulations for the manipulation of this product, including the 29 CFR 1910.110 standard: Storage and handling of liquefied petroleum gases.

Handling must conform to the LSST stipulations and its regulations, such as the RSST (in particular sections VII and X), the RSSM and the CSTC.

See Section 8: *Exposure controls / Personal protection* for details on individual and collective protective measures and equipment.

Additional precautions against physical and environmental hazards

Use and handle away from all sources of ignition and incompatible materials.

Use only grounded, non-sparking tools and equipment. Provide equipotential bonding of containers and product recovery equipment.

Minimize the risk of spilling product into the environment.

General hygiene

Wash hands, forearms and face after any exposure to the product.

Specific requirements for explosibility and flammability

Keep this product away from flames, sparks and all potential heat sources or ignition. Do not smoke.

Use only grounded, non-sparking tools and equipment. Provide equipotential bonding of containers and product recovery equipment used.

Do not subject to grinding, shock and friction.

Specific requirements for storage conditions

Protect containers and containers from impacts, shocks and vibrations.

Specific packaging requirements

Storage must conform to the LSST stipulations and its regulations, such as the RSST (in particular sections VII and X), the RSSM and the CSTC. According to the situation, the chapter Building of the Safety code and the CNPI can also apply.

Refer to the competent government authorities for additional information on the specific use and storage requirements applicable to the product according to the regulations in force.

Incompatible substances or mixtures

Use, handle, store and store incompatible substances and mixtures separately.

See Section 10: Stability and Reactivity for details on reactivity conditions and incompatible materials of the product.

Other storage and stockpiling requirements

Keep away from flames, sparks and excessive temperatures.
Store in a container or container that is in good condition, kept tightly closed, clearly identified according to WHMIS 2015 requirements, grounded or equipotentially linked.
Store only in approved containers.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

# CAS	Chemical Name	IDLH		RSST TLV						Notes
				VEMP		VECD		VP		
		mg/m³	ppm	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm	
74-82-8	Methane		N.A.		N.A.		N.A.		N.A.	SA
74-84-0	Ethane		N.A.		N.A.		N.A.		N.A.	SA
75-66-1	Methyl-2-propanethiol-2		N.A.		N.A.		N.A.		N.A.	
N.D.	Other simple hydrocarbons		N.A.		N.A.		N.A.		N.A.	

Legend: C1, C2, C3 : Carcinogenic effect detected or suspected, DNOC : Dusts not otherwise classified, mg/m3 : milligrams per cubic meter of air, N/A : Not applicable, N.A. : Data not available, Pi : Inhalable dust, Pt : Total dust, ppm : parts per million, VEMP : Time-weighted average exposure limit (TWA), VECD : Short-term exposure limit (STEL), VP : Ceiling limit (CEV), SA: Simple Asphyxiant

Appropriate Engineering Controls

Use engineering controls such as closed enclosures, exhaust ventilation at source, or any other integrated automatic control system to keep air concentrations below the occupational exposure limit values in the table belowtop.

If possible, use a mechanical handling system to reduce personal contact.

Ensure that the equipment, tools and systems used are explosion-proof, grounded and/or equipped with an equipotential connection and apply control measures for the handling of combustible and explosive dust.

Handle according to good industrial hygiene practices and safety instructions.

See *Section 7: Handling and storage* for more information on precautions required for handling, use, storage and storage.

Individual protection measures

In accordance with good industrial hygiene practices, the wearing of personal protective equipment is required when other engineering controls already in place do not adequately protect against the risk of contamination.

General protection

Ensure that emergency eyewash stations are installed, easily accessible near workstations, in an unobstructed area and properly identified. The water must be warm and of sufficient flow to ensure a complete rinse.

Wash hands, forearms and face after using the product.

Do not eat, drink or smoke in areas where this product is handled, stored and used.

Eye / face protection

Wear eye protection if there is a risk of refrigerated liquefied gas splatters. The choice of eye protection, goggles, face shields, etc., depends on the nature of the work to be done and the risk of exposure.

Skin protection

In case of risk of contact with refrigerated liquefied gas, wear a face shield and waterproof clothing resistant to low temperatures (apron, cryogenic gloves). Waterproof, flame retardant and antistatic protective clothing may also be worn, depending on the nature of the work and the risk of fire.

Wear safety footwear or boots in accordance with the Protective Footwear Standard, *CAN/CSA-Z195-14*.

Respiratory protection

Wear a supplied-air respirator if the gas concentration in working areas is presenting any risk of asphyxiation.

Attention: the limits of flammability should be considered during the evaluation of the necessity of exposing the staff to concentrations requiring a respiratory protection.

In the event of insufficient ventilation or in situations where the concentration exceeds the exposure limit values (TLV), wear a respirator selected, fitted, used and maintained in accordance with the *Selection, use, and care of respirators Standard, CSA Z94.4-11* and respiratory protection program.

Type of respirator : Air cleaning with chemical cartridges against organic vapour.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Basic physical and chemical properties

Physical State	Liquefied gas (cryogenic fluid) Clear liquid Cold vapour; white cloud	**Colour**	Colorless
Odour	Odorous product (mercaptan) for leak detection. Rotten egg smell.		
Flammability	Flammable Gas	**Melting / Freezing Point**	-182.5°C
Explosion Limits	lower (LEL) 5 % upper (UEL) 15 %	**Boiling point (or range)**	-161,5°à (1atm)
Flash point	-188°C (en vase clos)	**Auto-ignition temperature**	580°C
Decomposition temperature	N.A.	**Partition coefficient n-octanol/water (Log Kow)**	0,0812
Solubility	Soluble	**pH**	N/A
Density / Relative density	0,4415 at -162ºC	**Kinematic viscosity**	N/A
Vapour pressure	110 kPa	**Relative vapour density**	≈ 0.555
Particle characteristics	N.A.		

Additional data on safety characteristics

Explosive substances and article	Flammable gas, liquid and vapour.
Other informations	N.A.

SECTION 10 : STABILITY AND REACTIVITY

Reactivity	Keep away from sources of ignition and heat, high temperatures, open flames, sparks, welding, static electricity and other ignition sources. Do not smoke. Risk of violent reaction or explosion due to heat, friction or contact with incompatible materials.
Chemical stability	This product is generally stable under normal conditions of use and storage (ambient temperature, pressure and humidity).
Possibility of hazardous reactions	*Risk of explosion/ inflammation in* contact with : Explodes on impact, friction and high temperature. Contact with oxidizers increases the possibility of explosion/fire.
Conditions to avoid	Keep away from all sources of heat or ignition and from places where fire risks are high. Protect containers from damage (shock, friction, abrasion). Avoid contact with incompatible substances and products. Do not pressurize, cut, solder, braze, perforate, grind containers or expose them to a source of heat or ignition. Prevent accumulation of vapours in low or confined areas.
Incompatible materials	May burn or explode in enclosed space when mixed with strong oxidizers (peroxide, chlorine, chlorine dioxide, liquid oxygen).
Hazardous decomposition products	Carbon oxides CO, carbon monoxide, CO_2, fumes during combustion.

SECTION 11 : TOXICOLOGICAL INFORMATIONS

Information on the likely routes of exposure

Inhalation The vapors have a narcotic effect. Due to the very rapid evaporation rate, there is a possibility of total air replacement and danger of asphyxiation. Methane is a simple asphyxiant. Exposure to very high concentrations of methane can cause asphyxiation because it displaces oxygen from the air. The effects of asphyxiation can be felt more quickly during physical exertion since oxygen consumption is increased. Although considered non-toxic by inhalation, exposure to high concentrations of LNG may cause nervous system depression (rapid breathing, dizziness, drowsiness, headache, narcotic-like symptoms), but no long-term effects.

People with pre-existing heart, lung, and blood conditions may have an increased susceptibility to symptoms of asphyxia.

Skin exposure Tissue damage caused by frostbite on contact with liquefied gas. Vapors are not irritating. The signs of frostbite are a change in skin color to gray or white, possibly followed by blisters. The skin may become inflamed and painful.

Eye exposure Direct eye contact with cold vapor or liquid gas can cause frostbite, burns and eye damage.

Ingestion No data concerning an effect on the target organs was found in the consulted documentary sources.

Symptoms related to the physical, chemical and toxicological characteristics

Low exposure	Severe exposure
No data on low exposure symptoms	Simple asphyxiant, asphyxiation. Rapid breathing and rapid pulse, headache, dizziness, visual disturbances, mental confusion, incoordination, mood changes, muscle weakness, tremors, cyanosis, narcosis, numbness of extremities, unconsciousness leading to central nervous system damage up to death by anoxia.

Short- and long-term exposure effects

Immediate effects	Delayed or chronic effects
See subsection *Specific Target Organ Toxicity* (STOT) Single exposure	See subsection *Specific Target Organ Toxicity* (STOT) Repeated exposure

Acute toxicity This product contains orally toxic, dermal and respiratory ingredients.

Chemical Name	LD_{50} (oral)		LD_{50} (skin)		LC_{50} (inhalation) – 4 h	
	Value	Species	Value	Species	Value	Species
Methane	N.D.		N.D.		35 355 ppm	Mouse
Ethane	N.D.		N.D.		N.D.	
Methyl-2-propanethiol-2	4,729 mg/kg	Rat	2 000 mg/kg	Rabbit	26 643 ppm	Rat
Other simple hydrocarbons	N.D.		N.D.		N.D.	

Skin corrosion / irritation This product is not irritating but may cause frostbite on contact with liquefied gas.

Serious eye damage / irritation Tissue damage caused by frostbite on contact with liquefied gas. The vapours are not irritants. However, direct contact of the eyes, skin or mucous membranes with the cold vapours or liquid gas may cause frostbite, burns and permanent ocular and skin lesions.

Respiratory or skin sensitization No data concerning the respiratory or skin sensitization was found in the consulted documentary sources.

Germ cell mutagenicity No data is available for the mixture regarding mutagenicity.

Carcinogenicity No data concerning a carcinogenic effect was found in the consulted documentary sources (OSHA, ACGIH).

Chemical Name	IARC	ACGIH®	NTP
Methane			
Ethane			
Methyl-2-propanethiol-2			
Other simple hydrocarbons			

Reproductive toxicity No data are available for the mixture regarding reproductive effects.

Specific Target Organ Toxicity (STOT) Single exposure The vapors have a narcotic effect. Due to the very rapid evaporation rate, there is a possibility of total air replacement and danger of asphyxiation. Methane is a simple asphyxiant. Exposure to very high concentrations of methane can cause asphyxiation because it displaces oxygen from the air. The effects of asphyxiation can be felt more quickly during physical exertion since oxygen consumption is increased. Although considered non-toxic by inhalation, exposure to high concentrations of LNG may cause nervous system depression (rapid breathing, dizziness, drowsiness, headache, narcotic-like symptoms), but no long-term effects.

Specific Target Organ Toxicity (STOT) Repeated exposure No data concerning the reproductive effect was found in the consulted documentary sources.

Aspiration hazard No data is available for the mixture regarding aspiration hazard.

Interactive effects N/A

Other information The chemical, physical, and toxicological properties have not been fully investigated.

Occupational poisoning is part of the list of diseases, infections and intoxications reportable under the *Public Health Act (R.S.Q., c. S-2.2).*

SECTION 12 : ECOLOGICAL INFORMATIONS

This product is classified as toxic to the environment.

Ecotoxicological data

Fish and crustaceans toxicity No data available for the mixture.

Chemical Name	Species	Test	Result	Duration	Method / Conditions
Methane	N/A				
Ethane	N/A				
Methyl-2-propanethiol-2	Rainbow trout	CL_{50}	34 mg/L	96h	OCDE 203
Other simple hydrocarbons	N/A				

Algae and aquatic plants toxicity No data available for the mixture.

Chemical Name	Species	Test	Result	Duration	Method / Conditions
Methane	N/A				
Ethane	N/A				
Methyl-2-propanethiol-2	Green algae	$CE_{50}r$	24 mg/L	72h	OCDE 201
Other simple hydrocarbons	N/A				

Micro-organisms toxicity No data available for the mixture.

Chemical Name	Species	Test	Result	Duration	Method / Conditions
Methane	N/A				
Ethane	N/A				
Methyl-2-propanethiol-2	N/A				
Other simple hydrocarbons	N/A				

Other organisms toxicity No data available for the mixture.

Chemical Name	Species	Test	Result	Duration	Method / Conditions
Methane	N/A				
Ethane	N/A				
Methyl-2-propanethiol-2	Greater daphnia	CE_{50}	6,7 mg/L	48h	OCDE 202
Other simple hydrocarbons	N/A				

Persistence and degradability No data available for the mixture.

Chemical Name	Degradability values
Methane	N/A
Ethane	N/A
Methyl-2-propanethiol-2	Aerobic - Duration of exposure 63 days Result: 6 % - Not readily biodegradable. (OECD Guideline 301D)
Other simple hydrocarbons	N/A

Bioaccumulative potential No data available for the mixture.

Chemical Name	Bioaccumulative values
Methane	N/A
Ethane	N/A
Methyl-2-propanethiol-2	N/A
Other simple hydrocarbons	N/A

Mobility in soil No data available for the mixture.

Chemical Name	Mobility values
Methane	N/A
Ethane	N/A
Méthyl-2-propanethiol-2	N/A
Other simple hydrocarbons	N/A

Other adverse effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 : DISPOSAL CONSIDERATIONS

Disposal methods Vent the gas to the atmosphere.
For large quantities, consult the regional office of the environmental authority having jurisdiction.

SECTION 14 : TRANSPORT INFORMATION

Transport classification

Regulation	UN Number	UN Proper Shipping Name	Technical Name (for N.O.S. entry)	Transport hazard class(es)	Packing group
TDG	1972	NATURAL GAS, REFRIGERATED LIQUID (with high methane content)		2.1	

Environmental hazards See *Section 6: Accidental release measures* and *Section 12 : Ecological Information* for details on the effects of the product on the environment and the precautions to be taken to eliminate or limit these effects.

Special precautions for user	Check the packaging for compliance with applicable regulations before shipping the product. Do not smoke and provide ventilation in the space in which the product is transported. Avoid product contact with skin, eyes and clothing.
Transport in bulk according to IMO instruments	N/A

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product	The classification of this product has been made according to the criteria of the GHS and this SDS contains all the information required by the GHS. This product is controlled under WHMIS 2015 and subject to *Hazardous Products Act* (S.C. 1985, ch. H-3) and to *Hazardous Products Regulations* (SOR/2015-17) requirements. *Act respecting occupational health and safety* (R.S.Q. ch. S-2.1) *Regulation respecting occupational health and safety* (R.S.Q. ch. S-2.1, r. 19.01) *Transportation of Dangerous Goods Act* (S.C. 1992, ch. 34) *Transportation of Dangerous Goods Regulations* (SOR/2001-286) *Transportation of Dangerous Substances Regulation* (R.S.Q. ch. C-24.2, r. 43)
Prohibition, restriction or particular dispositions depending on the territory	*Environmental Protection Act* (S.C. 1999, ch. 33) *Environment Quality Act* (R.S.Q. ch. Q-2) *Regulation respecting hazardous materials* (R.S.Q. chapitre Q-2, r. 32)

SECTION 16 : OTHERS INFORMATIONS

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Notice to reader	This document has been prepared to the best of current knowledge and available scientific literature in accordance with the requirements of known and consulted local, regional, national and international regulations. The information provided in this document is accurate. However, neither the Supplier nor any of its subcontractors may assume any responsibility whatsoever for the accuracy or completeness of the information contained in this document. Any substance or mixture may present unknown hazards to date and, although some hazards are described in this document, it cannot be guaranteed that there are none. Use of this product should be done with caution. It is solely the user's responsibility to determine the safety and protection measures to be applied when this product is transported, handled, stored, disposed of or otherwise used.
Data Sources / Reference Documents	Safety data sheets of the original suppliers of the products used for the mixture *CANUTEC / Transport Canada* *European Chemicals Agency* (ECHA) *Exposure limit values* - IFA (Germany) *Globally harmonized system of classification and labelling of chemicals (GHS)*, UN, Eighth revised edition (2019) *NIOSH Pocket Guide to Chemical Hazards* – US Department of Health and Human Services (2005) *Toxicological directory* - CNESST *NFPA Standards* – US National Fire Protection Association *Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices Booklet* – ACGIH (2022) All ingredients are part of the Domestic Substances List in Canada.

Abbreviations / Acronyms	ACGIH	American Conference of Governmental Industrial Hygienists
	ADN	European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways
	ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
	ANSI	American National Standards Institute
	BCF	Bioconcentration factor
	BEI	Biological Exposure Indices
	BOD_5	Biochemical oxygen demand on 5 days
	CAS	Chemical Abstract Services
	CEN	European Committee for Standardization
	CEV	Ceiling Exposure Value
	CLP	Regulation (EC) n° 1272/2008 on classification, labelling and packaging of substances and mixtures
	CNESST	Labour standards, equity, occupational health and safety commission (Quebec)
	CSA	Canadian Standards Association
	COD	Chemical oxygen demand
	EC_{50}	Effective Concentration / Concentration of a substance where 50% of the population has an effect after a specified exposure time
	ECHA	European Chemicals Agency
	EGC Code	Code for Existing Ships Carrying Liquefied Gases in Bulk
	EINECS	European Inventory of Existing Commercial Chemical Substances
	EU	European Union
	GC Code	Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
	GHS	Globally harmonized system of classification and labelling of chemicals
	HMTA	Hazardous Materials Transportation Act - 49 U.S.C. 5101 et seq.
	HPA	Hazardous Products Act (Canada)
	HPR	Hazardous Products Regulations (Canada)
	IARC	International Agency for Research on Cancer
	IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
	IDLH	Immediately Dangerous to Life or Health
	IFA	Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (Germany)
	IGC Code	International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
	IMDG Code	International Maritime Dangerous Goods code
	IMO	International Maritime Organization
	IMSBC Code	International Maritime Solid Bulk Cargoes Code
	LC_{50}	Lethal Concentration / Concentration of the substance in air causing 50% (half) death in experimental animals during the observation period
	LD_{50}	Lethal Dose / Amount of a single-dose substance that causes 50% (half) death in a group of test animals
	LEL	Lower explosive limit
	MARPOL	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978.
	N/A	Not applicable - Not available
	NFPA	National Fire Protection Association
	NIOSH	National Institute for Occupational Safety and Health
	N.O.S.	Not otherwise specified
	NOEC	No observed effect concentration
	NTP	National Toxicology Program
	ODP	Ozone Depleting Potential
	OECD	Organization for Economic Cooperation and Development
	REACH	Regulation (EC) n° 1907/2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals
	RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

RSST	Regulation respecting occupational health and safety (Quebec)
SADT	Self-accelerating decomposition temperature
SDS	Safety data sheet
SOLAS	International Convention for the Safety of Life at Sea
S.T.	Sampling Time
STEL	Short-Term Exposure Limit Value
SVC	Saturated vapour concentration
TDG	Transportation of Dangerous Goods Regulations (Canada)
TLV	Threshold Limit Values
TRGS	Technischen Regeln für Gefahrstoffe (Germany)
TWA	Time Weighted Average Value
UEL	Upper explosive limit
UN	United Nations Organization
US	United States
WHMIS	Workplace Hazardous Materials Information System (Canada)