

# SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 453/2010)

## SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Product name : GRAPHENE - AEROSOL 650/400 ML  
Product code : 4702A4

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Lubricant  
Professional use

### 1.3. Details of the supplier of the safety data sheet

**VICTORIA LUB PTY LTD**

**24, 29-39 KIRKHAM RD WEST**

**KEYSBOROUGH VIC 3173**

**TEL: +613 9701 5373 info@viclube.com.au**

**www.viclube.com.au**

### Other emergency numbers

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department.

## SECTION 2 : HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### In compliance with EC regulation No. 1272/2008 and its amendments.

Flammable aerosol, Category 1 (Aerosol 1, H222 - H229).  
Skin irritation, Category 2 (Skin Irrit. 2, H315).  
Eye irritation, Category 2 (Eye Irrit. 2, H319).  
Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H336).  
Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).

#### In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

Extremely flammable (F+, R 12).  
Eye irritation (Xi, R 36).  
Vapours may cause drowsiness and dizziness (R 67).  
Aquatic environmental hazard, chronic toxicity: harmful (R 52/53).

### 2.2. Label elements

Mixture for aerosol application.

#### In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :



GHS07



GHS02

Signal Word :

DANGER

Product identifiers :

603-117-00-0

EC 931-254-9

Hazard statements :

H222

H229

H315

H319

H336

H412

PROPAN-2-OL

HYDROCARBONS, C6, ISOALKANES, <5% N-HEXANE

Extremely flammable aerosol.

Pressurised container: May burst if heated.

Causes skin irritation.

Causes serious eye irritation.

May cause drowsiness or dizziness.

Harmful to aquatic life with long lasting effects.

## Precautionary statements - General :

P102 Keep out of reach of children.

## Precautionary statements - Prevention :

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

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P260 Do not breathe spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection/face protection.

## Precautionary statements - Response :

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/attention.

## Precautionary statements - Storage :

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

**2.3. Other hazards**

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq$  0.1% published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>

The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

**SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures****Composition :**

Identification	(EC) 1272/2008	67/548/EEC	Note	%
CAS: 811-97-2 EC: 212-377-0 REACH: 01-2119459374-33  1,1,1,2-TETRAFLUOROETHANE	GHS04 Wng Press. Gas, H280		[1]	25 ≤ x % < 50
INDEX: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH: 01-2119457558-25  PROPAN-2-OL	GHS02, GHS07 Dgr Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	Xi,F Xi;R36 F;R11 R67	[1]	25 ≤ x % < 50
EC: 931-254-9 REACH: 01-2119484651-34  HYDROCARBONS, C6, ISOALKANES, <5% N-HEXANE	GHS07, GHS09, GHS08, GHS02 Dgr Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411	Xn,N,F Xn;R65 Xi;R38 N;R51/53 F;R11 R67		10 ≤ x % < 25
CAS: 64-17-5 EC: 200-578-6 REACH: 01-2119457610-43  ETHANOL	GHS07, GHS02 Dgr Flam. Liq. 2, H225 Eye Irrit. 2, H319	F F;R11	[1]	10 ≤ x % < 25
CAS: 7782-42-5 EC: 231-955-3  GRAPHITE			[1]	0 ≤ x % < 2.5
CAS: 115-10-6 EC: 204-065-8 REACH:	GHS02 Dgr Flam. Gas 1, H220	F+ F+;R12	[1]	0 ≤ x % < 2.5

01-2119472128-37

Press. Gas, H280

DIMETHYL ETHER

**Information on ingredients :**

[1] Substance for which maximum workplace exposure limits are available.

**SECTION 4 : FIRST AID MEASURES**

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

**4.1. Description of first aid measures****In the event of exposure by inhalation :**

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

Consult a physician in case of disorder.

**In the event of splashes or contact with eyes :**

Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

**In the event of splashes or contact with skin :**

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

Not to use solvents or thinners.

Consult a doctor in the event of irritation.

**In the event of swallowing :**

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

**4.2. Most important symptoms and effects, both acute and delayed**

No data available.

**4.3. Indication of any immediate medical attention and special treatment needed**

No data available.

**SECTION 5 : FIREFIGHTING MEASURES**

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

**5.1. Extinguishing media**

Keep packages near the fire cool, to prevent pressurised containers from bursting.

**Suitable methods of extinction**

In the event of a fire, use :

- sprayed water or water mist
- water with AFFF (Aqueous Film Forming Foam) additive
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO<sub>2</sub>)

Prevent the effluent of fire-fighting measures from entering drains or waterways.

**Unsuitable methods of extinction**

In the event of a fire, do not use :

- water jet

**5.2. Special hazards arising from the substance or mixture**

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO<sub>2</sub>)
- various hydrocarbons

- aldehydes

### 5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

#### For non first aid worker

Because of the organic solvents contained in the mixture, eliminate sources of ignition and ventilate the area.

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

#### For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

### 6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures

Use drums to dispose of collected waste in compliance with current regulations (see section 13).

### 6.3. Methods and material for containment and cleaning up

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

### 6.4. Reference to other sections

No data available.

## SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

### 7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Avoid contact with skin, eyes and clothings.

Do not breathe vapours, fumes and fog.

#### Fire prevention :

Handle in well-ventilated areas.

Vapours are heavier than air. They can spread along the ground and form mixtures that are explosive with air.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Do not spray on a naked flame or any incandescent material.

Do not pierce or burn, even after use.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

#### Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Do not breathe in aerosols.

Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.

Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Avoid skin and eye contact with this mixture.

Packages which have been opened must be reclosed carefully and stored in an upright position.

#### Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.  
Never open the packages under pressure.

**7.2. Conditions for safe storage, including any incompatibilities**

No data available.

**Storage**

Keep out of reach of children.

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Keep the container away from heat, bad weather, dampness and freezing.

**Packaging**

Always keep in packaging made of an identical material to the original.

**7.3. Specific end use(s)**

No data available.

**SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters****Occupational exposure limits :**

- European Union (2009/161/EU, 2006/15/EC, 2000/39/EC, 98/24/EC)

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
115-10-6	1920	1000	-	-	-

- Germany - AGW (BAuA - TRGS 900, 21/06/2010) :

CAS	VME :	VME :	Excess	Notes
811-97-2	1000 ml/m3	4200 mg/m3	8(II)	DFG, Y
67-63-0	200 ml/m3	500 mg/m3	2(II)	DFG, Y
64-17-5	500 ml/m3	960 mg/m3	2(II)	DFG, Y
115-10-6	1000 ml/m3	1900 mg/m3	8(II)	DFG

- Belgium (Order of 19/05/2009, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-63-0	400 ppm	500 ppm	-	-	-
64-17-5	1000 ppm	-	-	-	-
7782-42-5	2 mg/m3	-	-	-	R
115-10-6	1000 ppm	-	-	-	-

- France (INRS - ED984 :2008) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
67-63-0	-	-	400	980	-	84
64-17-5	1000	1900	5000	9500	-	84
7782-42-5	-	2 A	-	-	-	25
115-10-6	1000	1920	-	-	-	-

- Spain (Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT), Mayo 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-63-0	400 ppm	500 ppm	-	-	-
64-17-5	1000 ppm	-	-	-	-
7782-42-5	2 mg/m3	-	-	-	-
115-10-6	1000 ppm	-	-	-	-

- Netherlands / MAC-waarde (SER, 4 May 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
811-97-2	1000 ppm	-	-	-	-
67-63-0	250 ppm	-	-	-	-
64-17-5	500 ppm	-	-	-	-
7782-42-5	2 mg/m3	-	-	-	R
115-10-6	500 ppm	800 ppm	-	-	-

- Poland (2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-63-0	900 mg/m3	1200 mg/m3	-	-	-
64-17-5	1900 mg/m3	-	-	-	-
7782-42-5	1 mg/m3	-	-	-	R
115-10-6	1000 mg/m3	-	-	-	-

Czech Republic (Regulation No. 361/2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-63-0	500 mg/m3	1000 mg/m3	-	-	-
64-17-5	1000 mg/m3	3000 mg/m3	-	-	-
7782-42-5	2 mg/m3	-	-	-	R
115-10-6	-	2000 mg/m3	-	-	-

- Switzerland (SUVA 2009) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Temps :	RSB :
811-97-2	4200	1000	-	-	-	-
67-63-0	500	200	1000	400	4x15	B
64-17-5	960	500	1920	1000	4x15	-
7782-42-5	2,5 a	-	-	-	-	-
115-10-6	1910	1000	-	-	-	-

- UK / WEL (Workplace exposure limits, EH40/2005, 2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
811-97-2	1000 ppm	-	-	-	-
67-63-0	400 ppm	500 ppm	-	-	-
64-17-5	1000 ppm	-	-	-	-
115-10-6	400 ppm	500 ppm	-	-	-

France (INRS) Vapours C6-C12 : VME = 1000 mg/m3, VLE = 1500 mg/m3.

**Derived no effect level (DNEL) or derived minimum effect level (DMEL):**

HYDROCARBONS, C6, ISOALKANES, &lt;5% N-HEXANE

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Workers.**

Dermal contact.

Long term systemic effects.

13964 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Inhalation.

Long term systemic effects.

5306 mg de substance/m3

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Consumers.**

Ingestion.

Long term systemic effects.

1301 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Dermal contact.

Long term systemic effects.

1377 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Inhalation.

Long term systemic effects.

1137 mg de substance/m3

PROPAN-2-OL (CAS: 67-63-0)

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Workers.**

Dermal contact.

Long term systemic effects.

888 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Inhalation.

Long term systemic effects.

500 mg de substance/m3

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Consumers.**

Ingestion.

Long term systemic effects.

26 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Dermal contact.

Long term systemic effects.

319 mg/kg de poids corporel/jour

Exposure method: Inhalation.  
Potential health effects: Long term systemic effects.  
DNEL : 89 mg de substance/m3

**Predicted no effect concentration (PNEC):**

PROPAN-2-OL (CAS: 67-63-0)

Environmental compartment: Soil.  
PNEC : 28 mg/kg

Environmental compartment: Fresh water.  
PNEC : 140.9 mg/l

Environmental compartment: Sea water.  
PNEC : 140.9 mg/l

Environmental compartment: Intermittent waste water.  
PNEC : 140.9 mg/l

Environmental compartment: Fresh water sediment.  
PNEC : 552 mg/kg

Environmental compartment: Marine sediment.  
PNEC : 552 mg/kg

Environmental compartment: Waste water treatment plant.  
PNEC : 2251 mg/l

**8.2. Exposure controls****Personal protection measures, such as personal protective equipment**

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

**- Eye / face protection**

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

**- Hand protection**

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))

Recommended properties :

- Impervious gloves in accordance with standard EN374

**- Body protection**

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034 to prevent skin contact.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

**- Respiratory protection**

Avoid breathing vapours.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Type of FFP mask :

Wear a disposable half-mask aerosol filter in accordance with standard EN149.

Category :

- FFP1

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- AX (Brown)

Particle filter according to standard EN143 :

- P1 (White)

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

#### General information :

Physical state :	Fluid liquid.
	Spray.

#### Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	Not specified.
Vapour pressure (50°C) :	Not relevant.
Density :	< 1
Water solubility :	Partially soluble.
Melting point/melting range :	Not specified.
Self-ignition temperature :	Not specified.
Decomposition point/decomposition range :	Not specified.
Chemical combustion heat :	Not specified.
Inflammation time :	Not specified.
Deflagration density :	Not specified.
Inflammation distance :	Not specified.
Flame height :	Not specified.
Flame duration :	Not specified.

### 9.2. Other information

Colour: black

## SECTION 10 : STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

### 10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

### 10.4. Conditions to avoid

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- heating
- heat
- flames and hot surfaces
- accumulation of electrostatic charges.
- exposure to light
- sources of ignition

### 10.5. Incompatible materials

Keep away from :

- acids
- oxidising agents

### 10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)

- carbon dioxide (CO<sub>2</sub>)
- various hydrocarbons
- aldehyde

## SECTION 11 : TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Exposure to vapours from solvents in the mixture in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system.

Symptoms produced will include headaches, numbness, dizziness, fatigue, muscular asthenia and, in extreme cases, loss of consciousness. May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours.

Repeated or prolonged contact with the mixture may cause removal of natural oil from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days.

Splashes in the eyes may cause irritation and reversible damage

Narcotic effects may occur, such as drowsiness, narcosis, decreased alertness, loss of reflexes, lack of coordination or dizziness.

Effects may also occur in the form of violent headaches or nausea, judgement disorder, giddiness, irritability, fatigue or memory disturbance.

#### 11.1.1. Substances

##### Acute toxicity :

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Inhalation route : LC50 > 500000 ppm  
Species : Rat

GRAPHITE (CAS: 7782-42-5)

Oral route : LD50 > 2000 mg/kg  
Species : Rat (recommended by the CLP)  
OCDE Ligne directrice 401 (Toxicité aiguë par voie orale)

HYDROCARBONS, C6, ISOALKANES, <5% N-HEXANE

Oral route : LD50 > 5000 mg/kg  
Species : Rat

Dermal route : LD50 > 3000 mg/kg  
Species : Rat  
OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

Inhalation route : LC50 > 20 mg/l  
Species : Rat  
OCDE Ligne directrice 403 (Toxicité aiguë par inhalation)

##### Serious damage to eyes/eye irritation :

ETHANOL (CAS: 64-17-5)

Causes serious eye irritation.

Corneal haze : 1 <= Average score < 2 and effects totally reversible within 21 days of observation

##### Carcinogenicity :

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Carcinogenicity Test : Negative.

No carcinogenic effect.

#### 11.1.2. Mixture

No toxicological data available for the mixture.

## SECTION 12 : ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

### 12.1. Toxicity

#### 12.1.1. Substances

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Fish toxicity :

LC50 = 450 mg/l

Species : *Oncorhynchus mykiss*

Duration of exposure : 96 h

Crustacean toxicity :

EC50 = 930 mg/l

Species : *Daphnia magna*

Duration of exposure : 48 h

#### 12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

#### 12.2. Persistence and degradability

##### 12.2.1. Substances

HYDROCARBONS, C6, ISOALKANES, <5% N-HEXANE

Biodegradability :

Fast degrading.

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

No data available.

#### 12.5. Results of PBT and vPvB assessment

No data available.

#### 12.6. Other adverse effects

No data available.

### SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

#### 13.1. Waste treatment methods

Do not pour into drains or waterways.

##### Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

##### Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

### SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2013 - IMDG 2012 - ICAO/IATA 2014).

#### 14.1. UN number

1950

#### 14.2. UN proper shipping name

UN1950=AEROSOLS, flammable

#### 14.3. Transport hazard class(es)

- Classification :

2.1

#### 14.4. Packing group

-

#### 14.5. Environmental hazards

-

**14.6. Special precautions for user**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	2	5F	-	2.1	-	1 L	190 327 344 625	E0	2	D
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ			
	2.1	See SP63	-	SP277	F-D,S-U	63 190 277 327 344 959	E0			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	2.1	-	-	203	75 kg	203	150 kg	A145 A167 A145 A167 A802	E0	
	2.1	-	-	Y203	30 kg G	-	-	A145 A167 A802	E0	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

No data available.

**SECTION 15 : REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****- Classification and labelling information included in section 2:**

The following regulations have been used:

- Directive 67/548/EEC and its adaptations
- Directive 1999/45/EC and its adaptations
- Directive 75/734/CEE modified by directive 2013/10/UE
- EU Regulation No. 1272/2008 amended by EU Regulation No. 487/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 944/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 605/2014.

**- Container information:**

No data available.

**- Particular provisions :**

No data available.

**15.2. Chemical safety assessment**

No data available.

**SECTION 16 : OTHER INFORMATION**

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

**In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.**

Hazard symbols :



Irritant



Extremely flammable

Risk phrase :

- |         |   |
|---------|---|
| R 52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R 36    | Irritating to eyes.   |
| R 12    | Extremely flammable.  |
| R 67    | Vapours may cause drowsiness and dizziness.   |

Safety phrase :

- |      |  |
|------|--|
| S 16 | Keep away from sources of ignition - No smoking. |
| S 23 | Do not breathe spray.                            |

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 33 Take precautionary measures against static discharges.

S 60 This material and its container must be disposed of as hazardous waste.

S 2 Keep out of the reach of children.

S 51 Use only in well-ventilated areas.

**Title for H, EUH and R indications mentioned in section 3 :**

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
R 11	Highly flammable.
R 12	Extremely flammable.
R 36	Irritating to eyes.
R 38	Irritating to skin.
R 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 65	Harmful: may cause lung damage if swallowed.
R 67	Vapours may cause drowsiness and dizziness.

**Abbreviations :**

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).

GHS02 : Flame

GHS07 : Exclamation mark