



## SAFETY DATA SHEET

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

#### 1.1. Product identifier

Product name : C1 CHAIN CLEAN

Product code : 23001northamerica

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

Motorcycle chain degreaser

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

Registered company name : MOTUL.

Address : 119 BOULEVARD FELIX FAURE.93300.AUBERVILLIERS CEDEX.FRANCE.

Telephone : +33 (0)1.48.11.70.00. Fax : +33 (0)1.48.33.28.79.

Email: motul\_hse@motul.fr

#### 1.4. Emergency telephone number : +44 (0) 1235 239 670.

Association/Organisation : .

#### Other emergency numbers

UNITED STATES: 001 866 928 0789 / CANADA: 001 800 579 7421 / MEXICO : +52 55 5004 8763

BRAZIL : +55 11 3197 5891 / COLOMBIA : +57 1 508 7337 / ARGENTINA : +54 11 5984 3690 / CHILE : +562 2582 9336

### SECTION 2 : HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### HCS compliant.

Skin irritation, Category 2 (Skin Irrit. 2).

Eye irritation, Category 2B (Eye Irrit. 2B).

Specific target organ toxicity (single exposure), Category 3 (STOT SE 3).

Aspiration hazard, Category 1 (Asp. Tox. 1).

#### 2.2. Label elements

Mixture for aerosol application.

##### HCS compliant.

Hazard pictograms :



GHS07

GHS08

GHS02

Signal Word :

DANGER

Product identifiers :

HYDROCARBONS, C9-C11, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS

Hazard statements :

H222

Extremely flammable aerosol.

H229

Pressurised container: May burst if heated.

H304

May be fatal if swallowed and enters airways.

H315

Causes skin irritation.

H320

Causes eye irritation.

H336

May cause drowsiness or dizziness.

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.  
P262 Do not get in eyes, on skin, or on clothing.  
P271 Use only outdoors or in a well-ventilated area.  
Precautionary statements - Response :  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...  
P331 Do NOT induce vomiting.  
Precautionary statements - Storage :  
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 oC/122oF.  
Precautionary statements - Disposal :  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3. Other hazards

No data available.

## SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

#### Composition :

Identification	HCS	Nota	%
EC: 919-857-5 REACH: 01-2119463258-33  HYDROCARBONS, C9-C11, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS	GHS07, GHS08, GHS02 Dgr Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H336		25 <= x % < 50
INDEX: 601-004-00-0 CAS: 106-97-8 EC: 203-448-7 REACH: 01-2119474691-32  BUTANE	GHS02, GHS04 Dgr Flam. Gas 1, H220	[1] [7]	10 <= x % < 25
CAS: 5131-66-8 EC: 225-878-4  1-BUTOXYPROPAN-2-OL	GHS07, GHS02 Wng Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319		10 <= x % < 25

(Full text of H-phrases: see section 16)

#### Information on ingredients :

[7] Propellant gas

[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.

Remove the victim to fresh air. If the symptoms persist, call a physician.

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

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

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

To be translated (XML)

#### 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.

Immediately remove all soiled clothing.

Wash immediately and abundantly with soap and water.

**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.

If swallowed accidentally, do not allow to drink, do not induce vomiting and transfer to hospital immediately by ambulance. Show the label to the doctor.

**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**

Flammable.

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
- halon
- 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>)

**5.3. Advice for firefighters**

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.

Spilled product may make surfaces slippery.

**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

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 eyes.

No special precaution apart from the observance of hygiene rules



### 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.

Never inhale this mixture.

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.

Take precautionary measures against static discharges by bonding and grounding equipment.

No smoking.



### 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.

Ensure good ventilation at the workplace



### Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

Never open the packages under pressure.

Do not breathe fumes, vapour, spray.



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

Store between 5°C and 40°C in a dry, well ventilated place.

Only use hydrocarbon-resistant containers, joints and pipes.

#### Storage

Keep out of reach of children.

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

Keep away from food and drink, including those for animals.

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.

#### 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 :**

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
106-97-8	1000 ppm				

- Germany - AGW (BAuA - TRGS 900, 29/01/2018) :

CAS	VME :	VME :	Excess	Notes
106-97-8		1000 ppm 2400 mg/m <sup>3</sup>		4(II)

- France (INRS - ED984 :2016) :

CAS	VME-ppm :	VME-mg/m <sup>3</sup> :	VLE-ppm :	VLE-mg/m <sup>3</sup> :	Notes :	TMP No :
106-97-8	800	1900	-	-	-	-

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
106-97-8	600 ppm 1450 mg/m <sup>3</sup>	750 ppm 1810 mg/m <sup>3</sup>		Carc	

**8.2. Exposure controls****Appropriate engineering controls**

Ensure adequate ventilation, if possible with extractor fans at work posts and appropriate general extraction.

Personnel shall wear regularly laundered overalls.

**Personal protection measures, such as personal protective equipment**

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



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))

- PVA (Polyvinyl alcohol)

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 :

- A1 (Brown)

Particle filter according to standard EN143 :

- P1 (White)

Breathing apparatus only when aerosol or spray are formed.

## 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 :	215 °C.
Vapour pressure (50°C) :	Not relevant.
Density :	< 1
Water solubility :	Insoluble.
Self-ignition temperature :	250 °C.
Decomposition point/decomposition range :	250 °C.
Chemical combustion heat :	>= 30 kJ/g.

### 9.2. Other information

No data available.

## 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

#### 10.5. Incompatible materials

### 10.6. Hazardous decomposition products

The thermal decomposition may release/form :

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

## 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 moderate eye irritation which is totally reversible by the end of observation at 7 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.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

#### 11.1.1. Substances

No toxicological data available for the substances.

#### 11.1.2. Mixture



##### Skin corrosion/skin irritation :

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



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

Mild eye irritation



##### Aspiration hazard :

May be fatal if swallowed and enters airways.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

"Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons."

May cause lung damage if swallowed

## SECTION 12 : ECOLOGICAL INFORMATION

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

#### 12.1. Toxicity

##### 12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

#### 12.2. Persistence and degradability

No data available.

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil

Not very mobile in soil.

The product is insoluble in water and will spread on the surface

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

No data available.

#### 12.6. Other adverse effects

Do not dispose of the product in the natural environment, effluents or surface waters.

## SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the mixture and/or its container must be determined in accordance with local regulations.

#### 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 2017 - IMDG 2016 - ICAO/IATA 2017).

#### 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	See SP63	-	See SP277	F-D,S-U	63 190 277 327 344 381 959	E0			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	2.1	-	-	203	75 kg	203	150 kg	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 Marpol 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**

The following regulations have been used:

- OSHA Hazard Communication Standard 29 CFR 1910.1200

**- Container information:**

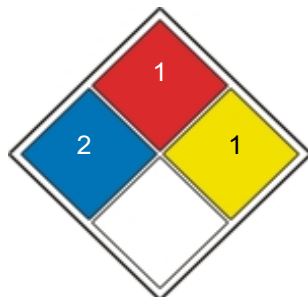
No data available.

**- Particular provisions :**

Total net weight of the aerosol (active product + gas) : 277 g

**- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :**

NFPA 704, Labelling: Health=2 Inflammability=1 Instability/Reactivity=1 Specific Risk=none

**- Clean Water Act : Toxic Pollutants (CWA 307A)**

Unlisted.

**- Clean Water Act : Hazardous Substances (CWA 311)**

Unlisted.

**- Clean Water Act : Hazardous Substances (CWA 304b)**



Unlisted.

**- Clean Water Act : Priority Pollutants (CWA Priority)**

Unlisted.

**- Clean Air Act : Hazardous Air Pollutants (CAA 112(b) HAP (188))**

Unlisted.

**- Clean Air Act : Organic Hazardous Air Pollutants National Emission Standards (CAA 112(b) HON (387))**

Unlisted.

**- Clean Air Act : Protection of Stratospheric Ozone (CAA 602)**

Unlisted.

**- SARA 110**

Unlisted.

**- SARA 302/304**

Unlisted.

**- SARA 313**

Unlisted.

**- California proposition 65 : Chemicals known to the state to cause cancer or reproductive toxicity**

Unlisted.

**- Massachusetts : Right to Know**

Unlisted.

**- New Jersey : Right to Know**

Unlisted.

**- Pennsylvania : Hazardous Substance**

Unlisted.

**- Rhode Island : Hazardous substance list**

Unlisted.

**- TSCA (Toxic Substances Control Act) - USA**

CAS

Name

5131-66-8

1-BUTOXYPROPAN-2-OL

**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.

**Wording of the phrases mentioned in section 3 :**

H220	Extremely flammable gas.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

**Abbreviations :**

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.

GHS02 : Flame

GHS07 : Exclamation mark

GHS08 : Health hazard

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

HCS : Hazard Communication standard (OSHA).



## SAFETY DATA SHEET

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

#### 1.1. Product identifier

Product name : C2 CHAIN LUBE ROAD

Product code : 23301northamerica

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

Motorcycle chain lubricant

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

Registered company name : MOTUL.

Address : 119 BOULEVARD FELIX FAURE.93300.AUBERVILLIERS CEDEX.FRANCE.

Telephone : +33 (0)1.48.11.70.00. Fax : +33 (0)1.48.33.28.79.

Email: motul\_hse@motul.fr

#### 1.4. Emergency telephone number : +44 (0) 1235 239 670.

Association/Organisation : .

#### Other emergency numbers

UNITED STATES AND CANADA : 001 866 928 0789

BRAZIL : +55 11 3197 5891

MEXICO : +52 55 5004 8763

CHILE : +562 2582 9336

### SECTION 2 : HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### HCS compliant.

Specific target organ toxicity (single exposure), Category 3 (STOT SE 3).

Aspiration hazard, Category 1 (Asp. Tox. 1).

#### 2.2. Label elements

Mixture for aerosol application.

##### HCS compliant.

Hazard pictograms :



GHS07



GHS08



GHS02

Signal Word :

DANGER

Product identifiers :

CAS 109-66-0

PENTANE

HYDROCARBONS C9-C10 N-ALKANES, ISO ALKANES, CYCLICS < 2% AROMATICS

Hazard statements :

H222

Extremely flammable aerosol.

H229

Pressurised container: May burst if heated.

H304

May be fatal if swallowed and enters airways.

H336

May cause drowsiness or dizziness.

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.

P271

Use only outdoors or in a well-ventilated area.

## Precautionary statements - Response :

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P331 Do NOT induce vomiting.

## Precautionary statements - Storage :

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

**2.3. Other hazards**

No data available.

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

Identification	HCS	Nota	%
CAS: 106-97-8 EC: 203-448-7 REACH: 01-2119474691-32  BUTANE	GHS02, GHS04 Dgr Flam. Gas 1, H220	[1]	25 ≤ x % < 50
CAS: 109-66-0 EC: 203-692-4 REACH: 01-2119459286-30  PENTANE	GHS07, GHS08, GHS02 Dgr Flam. Liq. 1, H224 Asp. Tox. 1, H304 STOT SE 3, H336	[1]	10 ≤ x % < 25
EC: 927-241-2 REACH: 01-2119471843-32  HYDROCARBONS C9-C10 N-ALKANES, ISO ALKANES, CYCLICS < 2% AROMATICS	GHS07, GHS08, GHS02 Dgr Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H336		10 ≤ x % < 25
CAS: 112-90-3 EC: 204-015-5  (Z)-OCTADEC-9-ENYLAMINE	GHS07, GHS05, GHS08 Dgr Acute Tox. 4, H302 Asp. Tox. 1, H304 Skin Corr. 1B, H314 STOT SE 3, H335 STOT RE 2, H373		0 ≤ x % < 1

**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.

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

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

**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.

Seek medical attention, showing the label.

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

If swallowed accidentally, do not allow to drink, do not induce vomiting and transfer to hospital immediately by ambulance. Show the label to the doctor.

#### 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

Flammable.

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
- halon
- 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
- water

#### 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>)

#### 5.3. Advice for firefighters

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.

Spilled product may make surfaces slippery.

##### 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.

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

Clean preferably with a detergent, do not use solvents.

sand or other inert absorbing material

#### 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 eyes.  
Take precautionary measures against static discharges.  
Spray in short bursts, without prolonged spraying.  
Do not breathe vapours  
No smoking.

**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.  
Never inhale this mixture.  
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.  
Vapours may be harmful in case of combustion.

**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.  
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.  
Avoid high temperatures

**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 food and drink, including those for animals.  
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.

**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 (2017/164/UE, 2009/161/UE, 2006/15/CE, 2000/39/CE, 98/24/CE)

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
109-66-0	3000	1000	-	-	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
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106-97-8	1000 ppm				
109-66-0	600 ppm				

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

CAS	VME :	VME :	Excess	Notes
106-97-8		1000 ppm 2400 mg/m3		4(II)
109-66-0		1000 ppm 3000 mg/m3		2(II)

- France (INRS - ED984 :2012) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
106-97-8	800	1900	-	-	-	-
109-66-0	1000	3000	-	-	-	84

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
106-97-8	600 ppm 1450 mg/m3	750 ppm 1810 mg/m3		Carc	

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

(Z)-OCTADEC-9-ENYLAMINE (CAS: 112-90-3)

**Final use:**

Exposure method:

Potential health effects:

DMEL :

**Workers.**

Inhalation.

Long term local effects.

0.38 mg de substance/m3

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

(Z)-OCTADEC-9-ENYLAMINE (CAS: 112-90-3)

Environmental compartment:

PNEC :

Soil.

10 mg/kg

Environmental compartment:

PNEC :

Fresh water.

0.00026 mg/l

Environmental compartment:

PNEC :

Sea water.

0.00026 mg/l

Environmental compartment:

PNEC :

Intermittent waste water.

0.55 mg/l

Environmental compartment:

PNEC :

Fresh water sediment.

0.1794 mg/kg

Environmental compartment:

PNEC :

Marine sediment.

0.01794 mg/kg

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

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



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 in accordance with standard EN166.

**- 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))
- PVA (Polyvinyl alcohol)

Recommended properties :

- Impervious gloves in accordance with standard EN374

#### - Body protection

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.

In the event of spraying, wear protective clothing against chemical risks and against sprayed liquid (type 4) in accordance with EN14605 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 :

- A1 (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 :	130 °C.
Vapour pressure (50°C) :	Below 110 kPa (1.10 bar).
Density :	< 1
Water solubility :	Insoluble.
Viscosity:	$\nu < 7 \text{ mm}^2/\text{s}$ (40°C)
Self-ignition temperature :	200 °C.
Decomposition point/decomposition range :	200 °C.
Chemical combustion heat :	$\geq 30 \text{ kJ/g}$ .

### 9.2. Other information

No data available.

## 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
- humidity
- accumulation of electrostatic charges.
- flames and hot surfaces

#### 10.5. Incompatible materials

Keep away from :

- water
- strong oxidising agents

#### 10.6. Hazardous decomposition products

The thermal decomposition may release/form :

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

## 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.

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.

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.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

#### 11.1.1. Substances

##### Acute toxicity :

(Z)-OCTADEC-9-ENYLAMINE (CAS: 112-90-3)

Oral route :

300 < LD<sub>50</sub> ≤ 2000 mg/kg

Species : Rat

#### 11.1.2. Mixture

##### Aspiration hazard :

May be fatal if swallowed and enters airways.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

## SECTION 12 : ECOLOGICAL INFORMATION

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

### 12.1. Toxicity

#### 12.1.1. Substances

(Z)-OCTADEC-9-ENYLAMINE (CAS: 112-90-3)

Fish toxicity :

0.01 < LC<sub>50</sub> ≤ 0.1 mg/l

Factor M = 10

Species : Pimephales promelas

OCDE Ligne directrice 203 (Poisson, essai de toxicité aiguë)

Crustacean toxicity :

0.01 < EC<sub>50</sub> ≤ 0.1 mg/l

Factor M = 10

Species : Daphnia magna

OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

Algae toxicity :

0.01 < EC<sub>50</sub> ≤ 0.1 mg/l

Factor M = 10

Species : Desmodesmus subspicatus

#### 12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

### 12.2. Persistence and degradability



**12.2.1. Substances**

(Z)-OCTADEC-9-ENYLAMINE (CAS: 112-90-3)

Biodegradability :

Rapidly degradable.

**12.3. Bioaccumulative potential****12.3.1. Substances**

(Z)-OCTADEC-9-ENYLAMINE (CAS: 112-90-3)

Bioaccumulation :

BCF &gt;= 500.

**12.4. Mobility in soil**

The product is insoluble in water and will spread on the surface

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

No data available.

**12.6. Other adverse effects**

Do not dispose of the product in the natural environment, effluents or surface waters.

**SECTION 13 : DISPOSAL CONSIDERATIONS**

The appropriate waste management of the mixture and/or its container must be determined in accordance with local regulations.

Do not pierce or burn, even after usage.

**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 2017 - IMDG 2016 - ICAO/IATA 2017).

**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	See SP63	-	See SP277	F-D,S-U	63 190 277 327 344 381	E0			

						959			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	2.1	-	-	Forbidden	Forbidden	203	150 kg	A1 A145 A167 A802	E0
	2.1	-	-	Forbidden	Forbidden	-	-	A1 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 Marpol 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

The following regulations have been used:

- OSHA Hazard Communication Standard 29 CFR 1910.1200

#### - Container information:

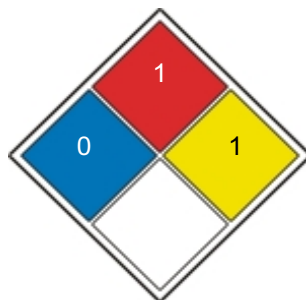
No data available.

#### - Particular provisions :

Total net weight of the aerosol (active product + gas) : 264 g

#### - Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=0 Inflammability=1 Instability/Reactivity=1 Specific Risk=none



#### - Clean Water Act : Toxic Pollutants (CWA 307A)

Unlisted.

#### - Clean Water Act : Hazardous Substances (CWA 311)

Unlisted.

#### - Clean Water Act : Hazardous Substances (CWA 304b)

Unlisted.

#### - Clean Water Act : Priority Pollutants (CWA Priority)

Unlisted.

#### - Clean Air Act : Hazardous Air Pollutants (CAA 112(b) HAP (188))

Unlisted.

#### - Clean Air Act : Organic Hazardous Air Pollutants National Emission Standards (CAA 112(b) HON (387))

Unlisted.

#### - Clean Air Act : Protection of Stratospheric Ozone (CAA 602)

Unlisted.

#### - SARA 110

CAS  
109-66-0

Name  
PENTANE

#### - SARA 302/304

Unlisted.

#### - SARA 313

Unlisted.

#### - California proposition 65 : Chemicals known to the state to cause cancer or reproductive toxicity

Unlisted.

#### - Massachusetts : Right to Know

CAS

Name

109-66-0 PENTANE

**- New Jersey : Right to Know**CAS Name  
109-66-0 PENTANE**- Pennsylvania : Hazardous Substance**CAS Name  
109-66-0 PENTANE**- Rhode Island : Hazardous substance list**CAS Name  
109-66-0 PENTANE**- TSCA (Toxic Substances Control Act) - USA**CAS Name  
112-90-3 (Z)-OCTADEC-9-ENYLAMINE  
109-66-0 PENTANE**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.

**Wording of the phrases mentioned in section 3 :**

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure .

**Abbreviations :**

DMEL : Derived Minimal 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.

GHS02 : Flame

GHS07 : Exclamation mark

GHS08 : Health hazard

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

HCS : Hazard Communication standard (OSHA).