Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **411 00 20540-6370-10 L**

Product name **INJECTOR POWER CLEANER DIESEL**

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

Intended use **Injector cleaning treatment to be used with a special system**

1.3. Details of the supplier of the safety data sheet

Name **Meccanocar Italia S.r.l.**

Full address **Via San Francesco, 22**

District and Country **56033 Capannoli (PI)**
Italy

Tel. +39 0587 609433

Fax +39 0587 607145

e-mail address of the competent person

responsible for the Safety Data Sheet **moreno.meini@meccanocar.it**

1.4. Emergency telephone number

For urgent inquiries refer to **National Poisons Information Service: +44 121 507 4123**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Acute toxicity, category 4	H312	Harmful in contact with skin.
Acute toxicity, category 4	H332	Harmful if inhaled.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:

P331	Do NOT induce vomiting.
P280	Wear protective gloves / eye protection / face protection.
P273	Avoid release to the environment.
P301+P310	IF SWALLOWED: immediately call a POISON CENTER / doctor.
P312	Call a POISON CENTRE / doctor if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P337+P313	If eye irritation persists: Get medical advice / attention.

Contains: LIGHT OIL DISTILLATES
ISOBUTYL ALCOHOL
3,6,9-TRIAZAUNDECANE-1,11-DIAMINO TETRAETHYLENEPENTAMINE
2-ETHYLHEXYL NITRATE

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	**x = Conc. %**	**Classification 1272/2008 (CLP)**
2-ETHYLHEXYL NITRATE		
CAS 27247-96-7	50 ≤ x < 54	Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Aquatic Chronic 2 H411, EUH044, EUH066
EC 248-363-6		
INDEX -		
Reg. no. 01-2119539586-27-XXXX		
LIGHT OIL DISTILLATES		

CAS 64742-47-8 EC 265-149-8 INDEX 649-422-00-2 Reg. no. 01-2119484819-18-XXXX	30 ≤ x < 32,5	Asp. Tox. 1 H304
ISOBUTYL ALCOHOL		
CAS 78-83-1 EC 201-148-0 INDEX 603-108-00-1 Reg. no. 01-2119484609-23-XXXX	7 ≤ x < 8	Flam. Liq. 3 H226, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336
3,6,9-TRIAZAUNDECANE-1,11-DIAMINO TETRAETHYLENEPENTAMINE		
CAS 112-57-2 EC 203-986-2 INDEX 612-060-00-0	1,5 ≤ x < 2	Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1 H314, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Chronic 2 H411

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Send away individuals who are not suitably equipped. Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Use breathing equipment if powders are released into the air.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water. Avoid the formation of powder and dispersion of the product in the air.

6.3. Methods and material for containment and cleaning up

Collect the leaked product and place it in containers for recovery or disposal. Make sure the leakage site is well aired. It may be advisable to wash with water any surfaces contaminated with traces of dust, without contaminating waste water.

6.4. Reference to other sections

Notify the competent authorities if the product has reached waterways or if it has contaminated the ground or vegetation.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
	TLV-ACGIH	ACGIH 2019

2-ETHYLHEXYL NITRATE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,08	mg/l
Normal value in marine water	0,08	mg/l
Normal value for fresh water sediment	0,074	mg/kg
Normal value for marine water sediment	0,074	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,0191	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				2,5 mg/kg bw/d				
Inhalation				8,7 mg/m3				0,35 mg/m3
Skin			2,2 mg/kg bw/d	0,52 mg/kg bw/d			4,4 mg/kg bw/d	1 mg/kg bw/d

LIGHT OIL DISTILLATES

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				18,75 mg/kg bw/d				

ISOBUTYL ALCOHOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	154	50			
VLEP	FRA	150	50			
WEL	GBR	154	50	231	75	
TLV	NOR	75	25			SKIN
TLV-ACGIH		152	50			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,4	mg/l
Normal value in marine water	0,04	mg/l
Normal value for fresh water sediment	1,56	mg/kg
Normal value for marine water sediment	0,156	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,076	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			55 mg/m3				310 mg/m3	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

ISOBUTYL ALCOHOL

Suitable safety gloves resistant to chemicals (EN 374) also with prolonged direct contact (Recommended: protection index 6, corresponding to> 480 minutes of breakthrough time according to EN 374): Eg nitrile rubber (0.4 mm), chloroprene rubber (0.5mm), butyl rubber (0.7mm) etc.
The manufacturer's instructions for use must be observed due to the wide variety of types.
Additional note: specifications are based on tests, literature data and information from glove manufacturers or derive from similar substances by analogy. Due to many conditions (eg temperature), it should be considered that the practical use of a chemical protective glove in practice can be much shorter than the breakthrough time determined through testing.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	yellow
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	180 °C
Boiling range	180 °C
Flash point	63 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	0,811
Solubility	Not available
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

ISOBUTYL ALCOHOL

Reacts with strong oxidizing agents

10.4. Conditions to avoid

Avoid overheating.

2-ETHYLHEXYL NITRATE

Avoid any contact with sources of heat, flames, sparks or any other sources of ignition. Vapors can be explosive. Avoid overheating of the containers. Containers can violently break due to fire.

10.5. Incompatible materials

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

2-ETHYLHEXYL NITRATE

Avoid contamination with acids, alkalis, reducing and oxidizing agents, amines and phosphorus.
Alkyl nitrates as a class of compounds react violently with strong mineral acids after an induction period of up to several hours to produce a vigorous evolution of gases such as nitrogen oxides. Traces of nitrogen oxides can promote the decomposition of alkyl nitrates. This can cause the container to rupture during heating or pressure build-up if stored for long periods at room temperature. Transition metal oxides or their chelates also significantly accelerate the rate of decomposition.

ISOBUTYL ALCOHOL

Strong oxidizing agents

10.6. Hazardous decomposition products

2-ETHYLHEXYL NITRATE

The products of combustion or thermal decomposition of 2-EHN are carbon oxides and nitrogen.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
> 20 mg/l
LD50 (Oral) of the mixture:
970,87 mg/kg
LD50 (Dermal) of the mixture:
>2000 mg/kg

2-ETHYLHEXYL NITRATE

LD50 (Oral) > 10 mg/kg Rat

LD50 (Dermal) > 5 mg/kg Rabbit

LC50 (Inhalation) > 4,6 mg/l/1h Rat

2-ETHYLHEXYL NITRATE

Method: Federal Hazardous Substance Act.
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LD50:> 10 mL / kg bw
Method: Federal Hazardous Substance Act
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Negative

LIGHT OIL DISTILLATES

Method: Equivalent or similar to OECD 420-Read across
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LD50> 5000 mg / kg bw
Method: Equivalent or similar to OECD 403-Read across
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: LC50> 5.28 mg / L air

Method: Equivalent or similar to OECD 402-Read across
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: LD50> 2000 mg / kg bw

ISOBUTYL ALCOHOL

Method: OECD 401
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LD50> 2830 mg / kg bw
Method: OECD 402
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Inhalation
Results: LD50> 2000 mg / kg bw
Method: OECD 402
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: LD50> 2000 mg / kg bw

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

2-ETHYLHEXYL NITRATE

Method: OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

LIGHT OIL DISTILLATES

Method: EPA Guidelines in FR Vol. 44, No. 145, pgs. 44054-44093-Read across
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

2-ETHYLHEXYL NITRATE

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Slightly irritating

LIGHT OIL DISTILLATES

Method: EPA OTS 798.4500-Read across
Reliability: 1

Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

ISOBUTYL ALCOHOL

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Corrosive

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

2-ETHYLHEXYL NITRATE

Method: OECD 406
Reliability: 1
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not sensitizing

LIGHT OIL DISTILLATES

Method: Equivalent or similar to OECD 406-Read across
Reliability: 1
Species: guinea pig (Hartley; male)
Route of exposure: Dermal
Results: Not sensitizing

ISOBUTYL ALCOHOL

Method: QSAR
Reliability: 1
Species: Not indicated
Route of exposure: Dermal
Results: Not classified

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

2-ETHYLHEXYL NITRATE

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium, E. coli
Results: Negative

LIGHT OIL DISTILLATES

Method: Equivalent or similar to OECD 479 in vitro-Read across test
Reliability: 1
Species: Chinese hamster
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 479-in vivo test-Read across
Reliability: 1

Species: Mouse (B6C3F1; male / female)
Route of exposure: Intraperitoneal
Results: Positive in males, negative in females

ISOBUTYL ALCOHOL

Method: Not indicated - in vitro test
Reliability: 2
Species: Chinese hamster
Results: Negative with and without metabolic activation
Bibliographic reference: Evaluation of the genotoxic potential of some microbial volatile organic compounds (MVOC) with the comet assay, the micronucleus assay and the HPRT gene mutation assay, Kreja L, Seidel H-J (2002)
Method: OECD 474-test in vivo
Reliability: 1
Species: Mouse (NMRI; male / female)
Route of exposure: Oral
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

LIGHT OIL DISTILLATES

Method: Equivalent or similar to OECD 451-Read across
Reliability: 1
Species: Mouse (C3H; male)
Route of exposure: Dermal
Results: Negative

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

2-ETHYLHEXYL NITRATE

Method: OECD 421
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL = 20

Adverse effects on sexual function and fertility
LIGHT OIL DISTILLATES

Method: Equivalent or similar to OECD 415-Read across
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: Negative, NOAEL (fertility) = 700 mg / kg bw / day

ISOBUTYL ALCOHOL

Method: EPA OPPTS 870.3800
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL (fertility)> = 7.5 mg / L air

Adverse effects on development of the offspring

LIGHT OIL DISTILLATES

Method: OECD 414
Reliability: 1
Species: Rat (Sprague-Dawley)
Route of exposure: Oral
Results: Positive, NOAEL (development) = 500 mg / kg bw / day

ISOBUTYL ALCOHOL

Method: OECD 414
Reliability: 1
Species: Rat (Wistar)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL (development) = 10 mg / L air

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

2-ETHYLHEXYL NITRATE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

LIGHT OIL DISTILLATES

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ISOBUTYL ALCOHOL

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

3,6,9-TRIAZAUNDECANE-1,11-DIAMINO TETRAETHYLENEPENTAMINE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Target organ
ISOBUTYL ALCOHOL

Respiratory tract

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

2-ETHYLHEXYL NITRATE

Method: OECD 413-Read across
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC> = 120 ppm
Method: EPA OPP 82-2
Reliability: 2
Species: Rabbit (Albino; male / female)
Route of exposure: Dermal
Results: Negative, NOAEL = 500 mg / kg bw / day

LIGHT OIL DISTILLATES

Method: Equivalent or similar to OECD 408-Read across
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: Negative, NOAEL = 750 mg / kg bw / day
Method: Equivalent or similar to OECD 413-Read across
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL> = 1000 mg / m3 air
Method: Equivalent or similar to OECD 411-Read across
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Dermal
Results: Negative, NOAEL> = 495 mg / kg bw / day

ISOBUTYL ALCOHOL

Method: OECD 408
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: Negative, NOAEL> 1450 mg / kg bw / day
Method: EPA OPPTS 870.3800
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL = 7.5 mg / L air

3,6,9-TRIAZAUNDECANE-1,11-DIAMINO TETRAETHYLENEPENTAMINE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

2-ETHYLHEXYL NITRATE

EC50 - for Crustacea	> 12,6 mg/l/48h

12.2. Persistence and degradability

2-ETHYLHEXYL NITRATE
Not intrinsically degradable, 0% in 28 days (OECD 310)
ISOBUTYL ALCOHOL
Easily degradable in water, 70-80% in 28 days.

ISOBUTYL ALCOHOL

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

12.3. Bioaccumulative potential

ISOBUTYL ALCOHOL

Partition coefficient: n-octanol/water	1

12.4. Mobility in soil

ISOBUTYL ALCOHOL

Partition coefficient: soil/water	0,31

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

2-ETHYLHEXYL NITRATE
Recover the product when possible. Incineration in authorized plants on-site or off-site equipped with post-combustion systems of combustion gases, wet washing and dedusting is the preferred disposal practice. Provided that 2-EHN is not limited, there should be no risk of violent decomposition. 2-EHN is not suitable for landfills or treatments with biological processes. Decomposition and fire can also occur with waste containing 2-EHN in case of overheating or contact with reactive materials.

ISOBUTYL ALCOHOL
They must be disposed of or incinerated in accordance with local regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	3082
ADR / RID:	In accordance with Special Provision 375, this product,

	when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to ADR provisions.
IMDG:	In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IMDG Code provisions.
IATA:	In accordance with SP A197, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

14.2. UN proper shipping name

ADR / RID:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IATA:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR / RID:	Class: 9	Label: 9	
IMDG:	Class: 9	Label: 9	
IATA:	Class: 9	Label: 9	

14.4. Packing group

ADR / RID, IMDG, IATA:	III

14.5. Environmental hazards

ADR / RID:	Environmentally Hazardous	
IMDG:	Marine Pollutant	

IATA:	Environmentally Hazardous		

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 L	Tunnel restriction code: (-)
	Special Provision: -		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Pass.:	Maximum quantity: 450 L	Packaging instructions: 964
	Special Instructions:	A97, A158, A197	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3 - 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
Skin Corr. 1	Skin corrosion, category 1
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule

- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:
The following sections were modified:
02 / 03 / 08 / 10 / 11 / 12 / 13.