# Safety Data Sheet
# PULITORE GPL - LPG SYSTEM CLEANER

**Safety Data Sheet dated 31/10/2024, version 11**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification:

Trade name: PULITORE GPL - LPG SYSTEM CLEANER

Trade code: 9837

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

Recommended use:

Fuel additive

Uses advised against:

Strictly adhere to the recommended uses.

1.3. Details of the supplier of the safety data sheet

Supplier:

Arexons S.p.A.

via Antica di Cassano, 23, 20063

Cernusco sul Naviglio (MI), Italy

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

Competent person responsible for the safety data sheet:

arexons@arexons.it

1.4. Emergency telephone number

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

In Ireland: emergency number 112

In South Africa: Poison Information Helpline 0861 555 777

In Malta: emergency number 112

## SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP):

Danger, Aerosols 1, Extremely flammable aerosol. Pressurized container: may burst if heated.

Danger, Eye Dam. 1, Causes serious eye damage.

Warning, STOT RE 2, May cause damage to organs through prolonged or repeated exposure.

Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:

Danger

Hazard statements:

H222, H229 Extremely flammable aerosol. Pressurized container: may burst if heated.

H318 Causes serious eye damage.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
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.
P280 Wear protective gloves/clothing and eye/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P501 Dispose of contents/container in accordance with applicable regulations.
Special Provisions:
PACK2 The packing must have tactive indications of danger for blind people.
EUH208 Contains amides, C18-unsatd., N-[3-(dimethylamine)propyl]. May produce an allergic reaction.
Contains
potassium 1,2-bis(2-ethylhexyloxycarbonyl)ethanesulphonate
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics
Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%
Other Hazards:
No other hazards

## SECTION 3: Composition/information on ingredients

3.1. Substances
N.A.
3.2. Mixtures
Hazardous components within the meaning of the CLP regulation and related classification:

| stta | Name | Ident. Number | | Classification |
|---|---|---|---|---|
| >= 40% - < 50% | Hydrocarbons, C3-4; Petroleum gas | Index number:<br>CAS:<br>EC:<br>REACH No.: | 649-199-00-1<br>68476-40-4<br>270-681-9<br>01-2119486557-22 | 2.2/1A Flam. Gas 1A H220<br>2.5/L Press Gas (Liq.) H280<br>DECLK (CLP)* |
| >= 30% - < 35% | Distillates (petroleum), hydrotreated light | EC:<br>REACH No.: | 926-141-6<br>01-2119456620-43 | 3.10/1 Asp. Tox. 1 H304<br>EUH066 |
| >= 3% - < 5% | potassium 1,2-bis(2-ethylhexyloxycarbonyl) ethanesulphonate | EC:<br>REACH No.: | 231-308-5<br>01-2119919740-39 | 3.2/2 Skin Irrit. 2 H315<br>3.3/1 Eye Dam. 1 H318 |

| | | | | |
|---|---|---|---|---|
| >= 3% - < 5% | Chilled liquid carbon dioxide | CAS:<br>EC: | 124-38-9<br>204-696-9 | 2.5/RL Press Gas (Ref. Liq.) H281 |
| >= 2% - < 3% | Poliolefina alchilfenolo | | | 3.2/2 Skin Irrit. 2 H315 |
| >= 1% - < 2% | Hydrocarbons ,C10, aromatics, > 1% naphthalene | EC:<br>REACH No.: | 919-284-0<br>01-2119463588-24 | 3.8/3 STOT SE 3 H336<br>3.10/1 Asp. Tox. 1 H304<br>4.1/C2 Aquatic Chronic 2 H411<br>EUH066 |
| >= 1% - < 2% | Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene | EC:<br>REACH No.: | 926-273-4<br>01-2119451151-53 | 3.8/3 STOT SE 3 H336<br>3.10/1 Asp. Tox. 1 H304<br>4.1/C2 Aquatic Chronic 2 H411<br>EUH066 |
| >= 1% - < 2% | Petroleum distillates, hydrotreated light | EC:<br>REACH No.: | 265-149-8<br>01-2119484819-18 | 2.6/3 Flam. Liq. 3 H226<br>3.10/1 Asp. Tox. 1 H304 |
| >= 1% - < 2% | Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics | EC: | 919-164-8 | 3.10/1 Asp. Tox. 1 H304<br>3.9/1 STOT RE 1 H372<br>4.1/C3 Aquatic Chronic 3 H412 |
| >= 0,25% - < 0,5% | naphthalene | CAS:<br>EC: | 91-20-3<br>202-049-5 | 3.6/2 Carc. 2 H351<br>3.1/4/Oral Acute Tox. 4 H302<br>4.1/A1 Aquatic Acute 1 H400 M=1.<br>4.1/C1 Aquatic Chronic 1 H410 M=1.<br>2.7/2 Flam. Sol. 2 H228<br>Acute Toxicity Estimate:<br>ATE - Oral 500 mg/kg bw |
| >= 0,25% - < 0,5% | 1,2,4-trimethylbenzene | CAS:<br>EC: | 95-63-6<br>202-436-9 | 2.6/3 Flam. Liq. 3 H226<br>3.1/4/Inhal Acute Tox. 4 H332<br>3.2/2 Skin Irrit. 2 H315<br>3.3/2 Eye Irrit. 2 H319<br>3.8/3 STOT SE 3 H335<br>3.10/1 Asp. Tox. 1 H304<br>4.1/C2 Aquatic Chronic 2 H411<br>Acute Toxicity Estimate:<br>ATE - Inhalation (Vapours) 11 mg/l |
| >= 0,25% - < 0,5% | Mesitilene | CAS:<br>EC: | 108-67-8<br>203-604-4 | 2.6/3 Flam. Liq. 3 H226<br>3.2/2 Skin Irrit. 2 H315<br>3.3/2 Eye Irrit. 2 H319<br>3.8/3 STOT SE 3 H335<br>3.10/1 Asp. Tox. 1 H304<br>4.1/C2 Aquatic Chronic 2 H411 |
| >= 0,25% - < 0,5% | 2-Ethylhexan-1-ol | CAS:<br>EC:<br>REACH No.: | 104-76-7<br>203-234-3<br>01-2119487289-20 | 3.1/4/Inhal Acute Tox. 4 H332<br>3.2/2 Skin Irrit. 2 H315<br>3.3/2 Eye Irrit. 2 H319<br>3.8/3 STOT SE 3 H335<br>Acute Toxicity Estimate: |

| | | | | |
|---|---|---|---|---|
| | | | | ATE - Inhalation (Vapours) 11 mg/l |
| >= 0,25% - < 0,5% | 1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts | EC:<br>REACH No.: | 947-523-9<br>01-2120765005-60 | 3.2/2 Skin Irrit. 2 H315<br>3.3/2 Eye Irrit. 2 H319<br>4.1/A1 Aquatic Acute 1 H400 |
| >= 0,02% - < 0,05% | amides, C18-unsatd., N-[3-(dimethylamine) propyl] | CAS:<br><br>EC: | 1379524-06-7<br><br>800-353-8 | 3.2/1B Skin Corr. 1B H314<br>3.3/1 Eye Dam. 1 H318<br>3.4.2/1A Skin Sens. 1A H317<br>4.1/A1 Aquatic Acute 1 H400<br>4.1/C1 Aquatic Chronic 1 H410 |
| >= 0,005% - < 0,01% | Cumene | Index number:<br>CAS:<br>EC: | 601-024-00-X<br>98-82-8<br>202-704-5 | 2.6/3 Flam. Liq. 3 H226<br>3.6/1B Carc. 1B H350<br>3.10/1 Asp. Tox. 1 H304<br>3.8/3 STOT SE 3 H335<br>4.1/C2 Aquatic Chronic 2 H411 |
| >= 0,005% - < 0,01% | naphthalene | Index number:<br>CAS:<br>EC:<br>REACH No.: | 601-052-00-2<br>91-20-3<br>202-049-5<br>01-2119561346-37 | 3.6/2 Carc. 2 H351<br>3.1/4/Oral Acute Tox. 4 H302<br>4.1/A1 Aquatic Acute 1 H400<br>4.1/C1 Aquatic Chronic 1 H410<br>2.7/2 Flam. Sol. 2 H228 |

*DECLK (CLP): Substance classified in accordance with Note K, Annex VI of EC Regulation (EC) 1272/2008. The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w 1,3- butadiene (Einecs No 203-450-8), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P210-P403 shall apply.

## SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
Wash thoroughly the body (shower or bath).
Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.


In case of Inhalation:
Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms and effects, both acute and delayed
None

4.3. Indication of any immediate medical attention and special treatment needed
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
None

## SECTION 5: Firefighting measures

5.1. Extinguishing media
Appropriate Extinguishing Media:
To carbon dioxide.
To dust.
Foam
Water spray.
Not Recommended Extinguishing Media:
Do not use direct water jets.

5.2. Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.

5.3. Advice for firefighters
Use suitable breathing apparatus .

## SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove all sources of ignition.
Remove persons to safety.
See protective measures under point 7 and 8.

6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up
For cleaning up:
Avoid flame and/or spark near leak and produced waste. Do not smoke. In case of large spills dike,
absorb and shovel up into suitable containers for disposal. Contain small spills with absorbent material.
Put dirty material in suitable container. Dispose of dirty material in accordance with local or national
regulations.

6.4. Reference to other sections
See also section 8 and 13

## SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

See also section 8 for recommended protective equipment.
Advice on general occupational hygiene:
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities
Only store in the original container.
Store at below 50 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
None in particular.
Instructions as regards storage premises:
Cool and adequately ventilated.

7.3. Specific end use(s)
None in particular

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
MAK - TWA: 2400 mg/m3, 1000 ppm
TLV TWA - 1900 mg/m3, 800 ppm
Distillates (petroleum), hydrotreated light
20101.12 - TWA: 1200 mg/m3, 165 ppm
Chilled liquid carbon dioxide - CAS: 124-38-9
EU - TWA(8h): 9000 mg/m3, 5000 ppm
ACGIH - TWA(8h): 5000 ppm - STEL: 30000 ppm - Notes: Asphyxia
Petroleum distillates, hydrotreated light
20101.13 - TWA: 200 mg/m3
naphthalene - CAS: 91-20-3
EU - TWA(8h): 50 mg/m3, 10 ppm
ACGIH - TWA(8h): 10 ppm - Notes: Skin, A3 - URT irr, cataracts, hemolytic anemia
1,2,4-trimethylbenzene - CAS: 95-63-6
EU - TWA(8h): 100 mg/m3, 20 ppm
Mesitilene - CAS: 108-67-8
EU - TWA(8h): 100 mg/m3, 20 ppm
ACGIH - TWA(8h): 10 ppm - Notes: CNS impair, hematologic eff
2-Ethylhexan-1-ol - CAS: 104-76-7
EU - TWA(8h): 5.4 mg/m3, 1 ppm
Cumene - CAS: 98-82-8
EU - TWA(8h): 50 mg/m3, 10 ppm - STEL: 250 mg/m3, 50 ppm - Notes: Skin
ACGIH - TWA(8h): 5 ppm - Notes: A3 - URT adenoma, neurological eff
naphthalene - CAS: 91-20-3
20101.13 - TWA: 50 mg/m3, 10 ppm
EU - TWA(8h): 50 mg/m3, 10 ppm
ACGIH - TWA(8h): 10 ppm - Notes: Skin, A3 - URT irr, cataracts, hemolytic anemia

DNEL Exposure Limit Values
naphthalene - CAS: 91-20-3
Worker Professional: 3.57 mg/kg - Exposure: Human Dermal
Worker Professional: 25 mg/m3 - Exposure: Human Inhalation
2-Ethylhexan-1-ol - CAS: 104-76-7
Consumer: 2.3 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 1.1 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Professional: 23 mg/kg - Consumer: 11.4 mg/m3 - Exposure: Human Dermal - Frequency: Long Term, systemic effects
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts

Worker Professional: 10.6 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 3 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
amides, C18-unsatd., N-[3-(dimethylamine)propyl] - CAS: 1379524-06-7
Worker Professional: 3.67 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 1.04 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values
naphthalene - CAS: 91-20-3
Target: Fresh Water - Value: 0.0024 mg/l
Target: Marine water - Value: 0.0024 mg/l
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts
Target: Fresh Water - Value: 0.406 03
Target: Marine water - Value: 40.6 03
amides, C18-unsatd., N-[3-(dimethylamine)propyl] - CAS: 1379524-06-7
Target: Fresh Water - Value: 1.4 03
Target: Marine water - Value: 0.14 03

8.2. Exposure controls
Eye protection:
Eye glasses with side protection.
Compliant with EN 166
Protection for skin:
protective clothing
Protection for hands:
Nitrile or Viton gloves.
Compliant with EN 374.
Thickness: Cuff 0.10 mm; Palm 0.12 mm; Fingers 0.145 mm
Respiratory protection:
Use a suitable respiratory protection device.
Thermal Hazards:
None
Environmental exposure controls:
None
Appropriate engineering controls:
None

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Properties | Value | Method: | Notes: |
|---|---|---|---|
| Physical state: | Liquid | -- | -- |
| Colour: | Light yellow | -- | -- |
| Odour: | Characteristic | -- | -- |
| Melting point/freezing point: | N.A. | -- | -- |
| Boiling point or initial boiling point and boiling range: | N.A. | -- | -- |
| Flammability: | N.A. | -- | -- |

| | | | |
|---|---|---|---|
| Lower and upper explosion limit: | N.A. | -- | -- |
| Flash point: | <-60°C | Hydrocarbons , C3-4 | -- |
| Auto-ignition temperature: | N.A. | -- | -- |
| Decomposition temperature: | N.A. | -- | -- |
| pH: | N.A. | -- | -- |
| Kinematic viscosity: | N.A. | -- | -- |
| Solubility in water: | N.A. | -- | -- |
| Solubility in oil: | N.A. | -- | -- |
| Partition coefficient n-octanol/water (log value): | N.A. | -- | -- |
| Vapour pressure: | N.A. | -- | -- |
| Density and/or relative density: | 0.847 | ASTM D 4052-96 | -- |
| Relative vapour density: | N.A. | -- | -- |
| Particle characteristics: | | | |
| Particle size: | N.A. | -- | -- |

9.2. Other information

No other relevant information

## SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

None

10.4. Conditions to avoid

Excessive heat.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None.

## SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological information of the product:

PULITORE IMPIANTO GPL SPRAY 120 ML

a) acute toxicity

Not classified

Based on available data, the classification criteria are not met
b) skin corrosion/irritation
Not classified
Based on available data, the classification criteria are not met
c) serious eye damage/irritation
The product is classified: Eye Dam. 1 H318
d) respiratory or skin sensitisation
Not classified
Based on available data, the classification criteria are not met
e) germ cell mutagenicity
Not classified
Based on available data, the classification criteria are not met
f) carcinogenicity
Not classified
Based on available data, the classification criteria are not met
g) reproductive toxicity
Not classified
Based on available data, the classification criteria are not met
h) STOT-single exposure
Not classified
Based on available data, the classification criteria are not met
i) STOT-repeated exposure
The product is classified: STOT RE 2 H373
j) aspiration hazard
Not classified
Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

Distillates (petroleum), hydrotreated light
a) acute toxicity:
Test: LC50 - Route: Inhalation - Species: Rat > 5000 mg/m3 - Duration: 8h
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
b) skin corrosion/irritation:
Test: OECD TG 404 - Route: Skin Negative
c) serious eye damage/irritation:
Test: OECD TG 405 - Route: EYE Negative
d) respiratory or skin sensitisation:
Test: Inhalation Sesitization 3
Test: Skin Sensitization 3
j) aspiration hazard:
Test: May be fatal if swallowed and enters airways (physical-chemical properties) - Route: Oral Positive

potassium 1,2-bis(2-ethylhexyloxycarbonyl)ethanesulphonate
b) skin corrosion/irritation:
Test: Skin Sensitization Negative
h) STOT-single exposure:
Test: Respiratory Tract Irritant Positive

Hydrocarbons ,C10, aromatics, > 1% naphthalene
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
Test: LD50 - Route: Oral - Species: Rat 6318 mg/kg
Test: LC50 - Route: Inhalation Vapour - Species: Rat > 4778 mg/m3 - Duration: 4h
c) serious eye damage/irritation:
Test: Eye Irritant - Species: Rabbit Negative
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: IND Negative
e) germ cell mutagenicity:
Test: oecd - Species: vitro Negative

g) reproductive toxicity:
Test: OECD 415 - Route: Inhalation - Species: Rat Positive
Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene
a) acute toxicity:
Test: LC50 - Route: Inhalation Dust - Species: Rat > 4778 mg/m3 - Duration: 4h
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
Test: LD50 - Route: Oral - Species: Rat 6318 mg/kg
c) serious eye damage/irritation:
Test: Eye Irritant - Species: Rat Negative
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: IND Negative
e) germ cell mutagenicity:
Test: oecd - Species: vitro Negative
g) reproductive toxicity:
Test: OECD 415 - Route: Oral - Species: Rat Positive
Petroleum distillates, hydrotreated light
j) aspiration hazard:
Test: May be fatal if swallowed and enters airways (physical-chemical properties) Positive
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics
i) STOT-repeated exposure:
Route: Inhalation Positive
j) aspiration hazard:
Test: May be fatal if swallowed and enters airways (physical-chemical properties) Positive
naphthalene - CAS: 91-20-3
a) acute toxicity
ATE - Oral 500 mg/kg bw
Test: LC50 - Route: Inhalation Vapour - Species: Rat > 0.4 mg/l - Duration: 4h
Test: LD50 - Route: Skin - Species: Rat > 16000 mg/kg
Test: LD50 - Route: Oral - Species: Mouse 533 mg/kg
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Negative
c) serious eye damage/irritation:
Test: Eye Irritant - Route: EYE - Species: Rabbit Negative
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin - Species: IND Negative
f) carcinogenicity:
Test: Carcinogeneticy - Route: Inhalation - Species: Rat Positive
g) reproductive toxicity:
Test: Reproductive Toxicity - Route: Inhalation - Species: Rat Positive
1,2,4-trimethylbenzene - CAS: 95-63-6
a) acute toxicity
ATE - Inhalation (Vapours) 11 mg/l
Test: LD50 - Route: Skin - Species: Rat > 3440 mg/kg
Test: LD50 - Route: Oral - Species: Rat 6000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 10200 mg/l - Duration: 4h
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin - Species: IND Negative
e) germ cell mutagenicity:
Test: Mutagenesis - Species: vitro Negative
g) reproductive toxicity:
Test: Reproductive Toxicity - Route: Inhalation - Species: Rat Positive
Mesitilene - CAS: 108-67-8
a) acute toxicity:
Test: LC50 - Route: Inhalation - Species: Rat > 10.2 mg/l - Duration: 4h
Test: LD50 - Route: Skin - Species: Rat > 3440 mg/kg
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive
c) serious eye damage/irritation:
Test: Eye Irritant - Route: EYE - Species: Rabbit Positive
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin - Species: IND Negative
e) germ cell mutagenicity:
Test: Mutagenesis - Species: vitro Negative
g) reproductive toxicity:
Test: Reproductive Toxicity - Route: Inhalation - Species: Rat Positive
2-Ethylhexan-1-ol - CAS: 104-76-7
a) acute toxicity
ATE - Inhalation (Vapours) 11 mg/l
Test: LD50 - Route: Oral - Species: Rat 2047 mg/kg
Test: LD50 - Route: Skin - Species: Rat 1970 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 0.89-5.3 mg/l - Duration: 4h
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive
c) serious eye damage/irritation:
Test: Eye Irritant - Route: EYE - Species: Rabbit Positive
e) germ cell mutagenicity:
Test: Mutagenesis - Species: vitro Negative
f) carcinogenicity:
Test: Carcinogeneticy - Route: Oral - Species: Mouse Negative
g) reproductive toxicity:
Test: Reproductive Toxicity - Route: Oral - Species: Rat Negative
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive
c) serious eye damage/irritation:
Test: Eye Irritant - Route: EYE - Species: Rabbit Positive
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin - Species: IND Negative
e) germ cell mutagenicity:
Test: oecd - Species: vitro Negative
amides, C18-unsatd., N-[3-(dimethylamine)propyl] - CAS: 1379524-06-7
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
b) skin corrosion/irritation:
Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: IND Positive
e) germ cell mutagenicity:
Test: oecd 2 - Species: vitro Negative
g) reproductive toxicity:
Test: OECD 421 - Route: Oral - Species: Rat Negative
Cumene - CAS: 98-82-8
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit > 10000 mg/kg
Test: LD50 - Route: Oral - Species: Rat 2260 mg/kg
b) skin corrosion/irritation:
Test: Eye Irritant - Species: Rabbit Negative
Test: Skin Irritant - Species: Rabbit Negative

d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: IND Negative
e) germ cell mutagenicity:
Test: oecd - Species: vitro Negative
f) carcinogenicity:
Test: Carcinogeneticy - Route: Inhalation - Species: Rat Positive
g) reproductive toxicity:
Route: Inhalation - Species: Rat Positive
naphthalene - CAS: 91-20-3
e) germ cell mutagenicity:
Test: Mutagenesis - Species: vitro Positive
f) carcinogenicity:
Test: Carcinogeneticy - Route: Inhalation - Species: Rat Positive - Notes: IARC 2B
i) STOT-repeated exposure:
Test: oecd 16 Positive

11.2. Information on other hazards
Endocrine disrupting properties:
No endocrine disruptor substances present in concentration >= 0.1%

## SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.
Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Daphnia = 14.22 mg/l - Duration h: 48
Distillates (petroleum), hydrotreated light
a) Aquatic acute toxicity:
Endpoint: EL0 - Species: Daphnia 1000 mg/l - Duration h: 48
Endpoint: EL0 - Species: Algae 1000 mg/l - Duration h: 72
Endpoint: CE7 - Species: Fish 1000 mg/l - Duration h: 96
potassium 1,2-bis(2-ethylhexyloxycarbonyl)ethanesulphonate
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 27.2 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 6.6 mg/l - Duration h: 48
c) Bacteria toxicity:
Endpoint: EC50 - Species: fanghi 164 mg/l - Duration h: 1
Poliolefina alchilfenolo
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Algae 5.4 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Algae 3.65 mg/l - Duration h: 96
Endpoint: NOEC - Species: Daphnia 3.38 mg/l - Duration h: 504
Hydrocarbons ,C10, aromatics, > 1% naphthalene
a) Aquatic acute toxicity:
Endpoint: EL50 - Species: Algae > 1 mg/l - Duration h: 72
Endpoint: EL50 - Species: Daphnia > 1.4 mg/l - Duration h: 48
Endpoint: LL50 - Species: Fish 2-5 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: NOEC 1 mg/l - Duration h: 72
Endpoint: NOEC 0.48 mg/l - Duration h: 504
Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene
a) Aquatic acute toxicity:
Endpoint: EL50 - Species: Algae > 1 mg/l - Duration h: 72
Endpoint: EL50 - Species: Daphnia 1.4 mg/l - Duration h: 48
Endpoint: LL50 - Species: Fish 2-5 mg/l - Duration h: 96
b) Aquatic chronic toxicity:

Endpoint: NOEL - Species: Algae 1 mg/l - Duration h: 72
Endpoint: NOEL - Species: Daphnia 0.48 mg/l - Duration h: 504
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish > 10.01-100 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia > 100.1-200 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae = 10.01-100 mg/l - Duration h: 72
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Algae 3 mg/l - Duration h: 72
naphthalene - CAS: 91-20-3
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Algae 2.96 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 2.16 mg/l - Duration h: 48
Endpoint: EC50 - Species: Fish 0.96 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Daphnia 0.59 mg/l - Duration h: 3000
Endpoint: NOEC - Species: Fish 0.12 mg/l - Duration h: 960
1,2,4-trimethylbenzene - CAS: 95-63-6
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Daphnia 3.6 mg/l - Duration h: 48
Endpoint: LC50 - Species: Fish 7.72 mg/l - Duration h: 96
Mesitilene - CAS: 108-67-8
a) Aquatic acute toxicity:
Endpoint: EL50 - Species: Algae 53 mg/l - Duration h: 48
Endpoint: LL50 - Species: Daphnia 6 mg/l - Duration h: 48
Endpoint: LL50 - Species: Fish 12.52 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: EL10 - Species: Algae 16 mg/l - Duration h: 48
Endpoint: NOEC - Species: Daphnia 0.4 mg/l - Duration h: 504
2-Ethylhexan-1-ol - CAS: 104-76-7
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Daphnia 39 mg/l - Duration h: 48
Endpoint: EL50 - Species: Algae 16.6 mg/l - Duration h: 72
Endpoint: LC50 - Species: Fish 17.1 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: EL10 - Species: Algae 5.3 mg/l - Duration h: 72
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Algae 85.4 mg/l - Duration h: 72
Endpoint: EC50 - Species: Daphnia 33.6 mg/l - Duration h: 48
Endpoint: EL50 - Species: fanghi > 100 mg/l - Duration h: 3
Endpoint: LC50 - Species: Fish 0.406 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Algae 42.9 mg/l - Duration h: 73
amides, C18-unsatd., N-[3-(dimethylamine)propyl] - CAS: 1379524-06-7
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Algae > 0.96 mg/l - Duration h: 72
Endpoint: EL50 - Species: Daphnia 0.28 mg/l - Duration h: 48
Endpoint: EL50 - Species: fanghi 480 mg/l - Duration h: 3
Endpoint: LL50 - Species: Fish 0.22 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: CE5 - Species: Algae 0.32 mg/l - Duration h: 72
Endpoint: EL10 - Species: Daphnia 0.07 mg/l - Duration h: 504
Cumene - CAS: 98-82-8
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Algae 2.01 mg/l - Duration h: 72
Endpoint: EC50 - Species: Daphnia 2.14 mg/l - Duration h: 48

Endpoint: EC50 - Species: fanghi > 2000 mg/l - Duration h: 3
Endpoint: LC50 - Species: Fish 4.8 mg/l - Duration h: 96
b) Aquatic chronic toxicity:
Endpoint: CE5 - Species: Algae 1.35 mg/l - Duration h: 72
Endpoint: NOEC - Species: Daphnia 0.35 mg/l - Duration h: 504
Endpoint: NOEC - Species: Fish 0.38 mg/l - Duration h: 672

12.2. Persistence and degradability
None
Distillates (petroleum), hydrotreated light
Biodegradability: Readily biodegradable - Duration: 28gg - %: 69
potassium 1,2-bis(2-ethylhexyloxycarbonyl)ethanesulphonate
Biodegradability: 4 - Test: BIOGDG08 - Duration: 28gg - %: 66.7
Test: BIOGDG07 - Duration: 28gg - %: 91.2
Hydrocarbons ,C10, aromatics, > 1% naphthalene
Biodegradability: 4 - Test: BIOGDG10 - Duration: 28gg - %: 58.6
Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene
Biodegradability: 4 - Test: BIOGDG10 - Duration: 28gg - %: 58.6
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics
Test: BIOGDG10 - Duration: 28gg - %: 74.4
naphthalene - CAS: 91-20-3
Biodegradability: Non-readily biodegradable - Test: OECD 302C - Duration: 28gg - %: 0-2
Mesitilene - CAS: 108-67-8
Biodegradability: Non-readily biodegradable - Duration: 28gg - %: 42
2-Ethylhexan-1-ol - CAS: 104-76-7
Biodegradability: Readily biodegradable - Test: BIOGDG09 - Duration: 14 days - %: 100
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts
Biodegradability: Readily biodegradable - Duration: 29 d - %: 77
amides, C18-unsatd., N-[3-(dimethylamine)propyl] - CAS: 1379524-06-7
Biodegradability: Readily biodegradable - Test: BIOGDG06 - %: 91
Cumene - CAS: 98-82-8
Biodegradability: Readily biodegradable - Duration: 20dd - %: 70

12.3. Bioaccumulative potential
potassium 1,2-bis(2-ethylhexyloxycarbonyl)ethanesulphonate
Test: Kow - Partition coefficient 1.98
Hydrocarbons ,C10, aromatics, > 1% naphthalene
Bioaccumulation: Bioaccumulative - Test: log Pow 2.8-6.5
Bioaccumulation: Bioaccumulative - Test: BCF - Bioconcentrantion factor 99-5780
Hydrocarbons, C10-C13, Aromatics, >1% Naphthalene
Test: log Pow 2.8-6.5
Test: BCF - Bioconcentrantion factor 99-5780
naphthalene - CAS: 91-20-3
Test: log Pow 3.4
Test: BCF - Bioconcentrantion factor 36.5-168
1,2,4-trimethylbenzene - CAS: 95-63-6
Test: log Pow 3.63
Test: BCF - Bioconcentrantion factor 243
Mesitilene - CAS: 108-67-8
Test: log Pow 3.42
Test: BCF - Bioconcentrantion factor 161
2-Ethylhexan-1-ol - CAS: 104-76-7
Test: BCF - Bioconcentrantion factor 25.33
Test: log Pow 2.9
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(C16-18(even numbered) and C18 unsaturated acyl) derivs., hydroxides, inner salts
Test: log Pow 0.8
amides, C18-unsatd., N-[3-(dimethylamine)propyl] - CAS: 1379524-06-7
Test: log Pow 1.842

Cumene - CAS: 98-82-8
Test: log Pow 3.55
Test: BCF - Bioconcentrantion factor 35.48

12.4. Mobility in soil
N.A.

12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties
No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects
None

## SECTION 13: Disposal considerations

13.1. Waste treatment methods
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

Additional disposal information:
"Use in accordance with good working practices, avoiding dispersal in the environment.
Do not discharge into drains, ground water or water courses. Comply with current legislation on the protection of water and soil from pollution (Legislative Decree No. 152 of 3/4/2006).
Dispose of used product and containers by handing them over to authorised companies, in accordance with the provisions of
Legislative Decree No. 152/2006 (Consolidated Environmental Act, which replaced the Ronchi Decree) as amended.
The used product is to be considered special waste to be classified in accordance with Directive No. 2008/98/EC on waste and related matters. Recover if possible. Send to authorised disposal plants or incineration under
controlled conditions (152/2006 art. 184).
Act in accordance with the local and national laws in force.
Contaminated packaging must be emptied as far as possible. After cleaning, send to an authorised centre for recycling or disposal."

## SECTION 14: Transport information


14.1. UN number or ID number

| | |
|---|---|
| ADR-UN Number: | 1950 |
| IATA-UN Number: | 1950 |
| IMDG-UN Number: | 1950 |

14.2. UN proper shipping name

| | |
|---|---|
| ADR-Shipping Name: | AEROSOLS, flammable |
| IATA-Shipping Name: | AEROSOLS, flammable |
| IMDG-Shipping Name: | AEROSOLS, flammable |

14.3. Transport hazard class(es)

| | |
|---|---|
| ADR-Class: | 2 |
| ADR - Hazard identification number: | - |
| IATA-Class: | 2 |
| IATA-Label: | 2.1 |
| IMDG-Class: | 2 |
| Sea (IMO): | 2 |

14.4. Packing group

| | |
|---|---|
| ADR-Packing Group: | - |

IATA-Packing group: -
IMDG-Packing group: -

14.5. Environmental hazards

ADR-Enviromental Pollutant: No
IMDG-Marine pollutant: No
IMDG-EmS: F-D, S-U

14.6. Special precautions for user

Rail (RID): 2
ADR-Subsidiary hazards: See SP63
ADR-S.P.: 190 327 344 625
ADR-Transport category (Tunnel restriction code): 2 (D)
IATA-Passenger Aircraft: 203
IATA-Subsidiary hazards: See SP63
IATA-Cargo Aircraft: 203
IATA-S.P.: A145 A167 A802
IATA-ERG: 10L
IMDG-Subsidiary hazards: See SP63
IMDG-Stowage and handling: SW1 SW22
IMDG-Segregation: SG69

14.7. Maritime transport in bulk according to IMO instruments

N.A.
Limited Quantity: 1 L
Exempted Quantity: E0

## SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2020/878
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:
Restriction 3
Restriction 40

Restrictions related to the substances contained:
Restriction 75

Volatile Organic compounds - VOCs = 88.62 %
Volatile Organic compounds - VOCs = 886.21 g/Kg
Volatile Organic compounds - VOCs = 587.55 g/l
Where applicable, refer to the following regulatory provisions :
Directive 2012/18/EU (Seveso III)
Regulation (EC) nr 648/2004 (detergents).
Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):
Seveso III category according to Annex 1, part 1
Product belongs to category: P3a

15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out for the mixture.
Substances for which a Chemical Safety Assessment has been carried out:
Hydrocarbons, C3-4; Petroleum gas
Distillates (petroleum), hydrotreated light

## SECTION 16: Other information

Text of phrases referred to under heading 3:
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
EUH066 Repeated exposure may cause skin dryness or cracking.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H281 Contains refrigerated gas; may cause cryogenic burns or injury.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
H226 Flammable liquid and vapour.
H372 Causes damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.
H351 Suspected of causing cancer.
H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H228 Flammable solid.
H332 Harmful if inhaled.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H350 May cause cancer.

| Hazard class and hazard category | Code | Description |
|---|---|---|
| Flam. Gas 1A | 2.2/1A | Flammable gas, Category 1A |
| Aerosols 1 | 2.3/1 | Aerosol, Category 1 |
| Press Gas (Liq.) | 2.5/L | Gases under pressure (Liquefied gas) |
| Press Gas (Ref. Liq.) | 2.5/RL | Gases under pressure (Refrigerated liquefied gas) |

| | | |
|---|---|---|
| Flam. Liq. 3 | 2.6/3 | Flammable liquid, Category 3 |
| Flam. Sol. 2 | 2.7/2 | Flammable solid, Category 2 |
| Acute Tox. 4 | 3.1/4/Inhal | Acute toxicity (inhalation), Category 4 |
| Acute Tox. 4 | 3.1/4/Oral | Acute toxicity (oral), Category 4 |
| Asp. Tox. 1 | 3.10/1 | Aspiration hazard, Category 1 |
| Skin Corr. 1B | 3.2/1B | Skin corrosion, Category 1B |
| Skin Irrit. 2 | 3.2/2 | Skin irritation, Category 2 |
| Eye Dam. 1 | 3.3/1 | Serious eye damage, Category 1 |
| Eye Irrit. 2 | 3.3/2 | Eye irritation, Category 2 |
| Skin Sens. 1A | 3.4.2/1A | Skin Sensitisation, Category 1A |
| Carc. 1B | 3.6/1B | Carcinogenicity, Category 1B |
| Carc. 2 | 3.6/2 | Carcinogenicity, Category 2 |
| STOT SE 3 | 3.8/3 | Specific target organ toxicity - single exposure, Category 3 |
| STOT RE 1 | 3.9/1 | Specific target organ toxicity - repeated exposure, Category 1 |
| STOT RE 2 | 3.9/2 | Specific target organ toxicity - repeated exposure, Category 2 |
| Aquatic Acute 1 | 4.1/A1 | Acute aquatic hazard, category 1 |
| Aquatic Chronic 1 | 4.1/C1 | Chronic (long term) aquatic hazard, category 1 |
| Aquatic Chronic 2 | 4.1/C2 | Chronic (long term) aquatic hazard, category 2 |
| Aquatic Chronic 3 | 4.1/C3 | Chronic (long term) aquatic hazard, category 3 |

Paragraphs modified from the previous revision:

SECTION 1: Identification of the substance/mixture and of the company/undertaking
SECTION 5: Firefighting measures
SECTION 6: Accidental release measures
SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 9: Physical and chemical properties
SECTION 10: Stability and reactivity
SECTION 13: Disposal considerations
SECTION 15: Regulatory information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| Classification according to Regulation (EC) Nr. 1272/2008 | Classification procedure |
|---|---|
| Aerosols 1, H222, H229 | On basis of test data |
| Eye Dam. 1, H318 | Calculation method |
| STOT RE 2, H373 | Calculation method |
| Aquatic Chronic 3, H412 | Calculation method |

This document was prepared by a competent person who has received appropriate training.
Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

| | |
|---|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road. |
| ATE: | Acute Toxicity Estimate |
| ATEmix: | Acute toxicity Estimate (Mixtures) |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society). |
| CLP: | Classification, Labeling, Packaging. |
| DNEL: | Derived No Effect Level. |
| EINECS: | European Inventory of Existing Commercial Chemical Substances. |
| GefStoffVO: | Ordinance on Hazardous Substances, Germany. |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals. |
| IATA: | International Air Transport Association. |
| IATA-DGR: | Dangerous Goods Regulation by the "International Air Transport Association" (IATA). |
| ICAO: | International Civil Aviation Organization. |
| ICAO-TI: | Technical Instructions by the "International Civil Aviation Organization" (ICAO). |
| IMDG: | International Maritime Code for Dangerous Goods. |
| INCI: | International Nomenclature of Cosmetic Ingredients. |
| KSt: | Explosion coefficient. |
| LC50: | Lethal concentration, for 50 percent of test population. |
| LD50: | Lethal dose, for 50 percent of test population. |
| NA: | Not applicable |
| PNEC: | Predicted No Effect Concentration. |
| RID: | Regulation Concerning the International Transport of Dangerous Goods by Rail. |
| STEL: | Short Term Exposure limit. |
| STOT: | Specific Target Organ Toxicity. |
| TLV: | Threshold Limiting Value. |
| TWA: | Time-weighted average |
| WGK: | German Water Hazard Class. |

# Exposure Scenario, 17/07/2019

| Substance identity | |
|---|---|
| **Chemical name** | IDROCARBURI C3-C4, Miscela (propano,butano,isobutano< 0,1% 1,3-Butadiene) |
| **CAS No.** | 68476-40-4 |
| **EINECS No.** | 270-681-9 |

## Table of contents

# 1. ES 1 Use at industrial site

## 1.1 TITLE SECTION

| | |
|---|---|
| **Exposure Scenario name** | Use as a propellant |
| **Date - Version** | 17/07/2019 - 1.0 |
| **Life Cycle Stage** | Use at industrial site |
| **Main user group** | Industrial uses |
| **Sector(s) of use** | Industrial uses (SU3) |

### Environment Contributing Scenario

| | |
|---|---|
| **CS1 Covered by** | ERC4 |

### Worker Contributing Scenario

| | |
|---|---|
| **CS2 Propellant** | PROC1 - PROC2 - PROC3 - PROC8b - PROC9 - PROC12 |

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario: Covered by (ERC4)

| | |
|---|---|
| **Environmental release categories** | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4) |

### 1.2. CS2: Worker Contributing Scenario: Propellant (PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12)

| | |
|---|---|
| **Process Categories** | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Use of blowing agents in manufacture of foam (PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12) |

#### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

> 10 kPa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers daily exposures up to 8 hours

#### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Keep drains in watertight containers while awaiting dismantling or subsequent recycling
Use in contained systems
Ensure operatives are trained to minimise exposures.
Ensure that direct skin contact is avoided.
Clear transfer lines prior to de-coupling.
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Drain down and flush system prior to equipment break-in or maintenance.

#### *Conditions and measures related to personal protection, hygiene and health evaluation*

**Personal protection**

Wear suitable respiratory protection.

### *Other conditions affecting worker exposure*

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.3 Exposure estimation and reference to its source

N/A

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario, 18/07/2019

| Substance identity | |
|---|---|
| **Chemical name** | Idrocarburi , C11- C14 , n-alcani , isoalcani, ciclici,< 2% aromatici. |
| **CAS No.** | 64742-47-8 |
| **EINECS No.** | 926-141-6 |

## Table of contents

# 1. ES 1 Use at industrial site

## 1.1 TITLE SECTION

| | |
|---|---|
| **Exposure Scenario name** | Fuel |
| **Date - Version** | 18/07/2019 - 1.0 |
| **Life Cycle Stage** | Use at industrial site |
| **Main user group** | Industrial uses |
| **Sector(s) of use** | Industrial uses (SU3) |

### Environment Contributing Scenario

| | |
|---|---|
| **CS1 Covered by** | ERC7 |

### Worker Contributing Scenario

| | |
|---|---|
| **CS2 Industrial** | PROC1 - PROC2 - PROC3 - PROC8a - PROC8b - PROC16 |

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario: Covered by (ERC7)

| | |
|---|---|
| **Environmental release categories** | Use of functional fluid at industrial site (ERC7) |

### 1.2. CS2: Worker Contributing Scenario: Industrial (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16)

| | |
|---|---|
| **Process Categories** | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Use of fuels (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16) |

#### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers daily exposures up to 8 hours

## 1.3 Exposure estimation and reference to its source

N/A

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# 2. ES 2 Widespread use by professional workers

## 2.1 TITLE SECTION

| | |
|---|---|
| **Exposure Scenario name** | Fuel |
| **Date - Version** | 18/07/2019 - 1.0 |
| **Life Cycle Stage** | Widespread use by professional workers |
| **Main user group** | Professional uses |

| **Environment Contributing Scenario** | |
|---|---|
| **CS1 Solids based process** | ERC9a - ERC9b |

| **Worker Contributing Scenario** | |
|---|---|
| **CS2 General use from professional operators** | PROC1 - PROC2 - PROC3 - PROC8a - PROC8b - PROC16 |

## 2.2 Conditions of use affecting exposure

| **2.2. CS1: Environment Contributing Scenario: Solids based process (ERC9a, ERC9b)** | |
|---|---|
| **Environmental release categories** | Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b) |

| **2.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16)** | |
|---|---|
| **Process Categories** | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Use of fuels (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16) |

### *Product (article) characteristics*

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers daily exposures up to 8 hours

## 2.3 Exposure estimation and reference to its source

N/A

## 2.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# 3. ES 3 Consumer use; Fuels (PC13)

## 3.1 TITLE SECTION

| | |
|---|---|
| **Exposure Scenario name** | Fuel |
| **Date - Version** | 18/07/2019 - 1.0 |
| **Life Cycle Stage** | Consumer use |
| **Main user group** | Consumer uses |
| **Sector(s) of use** | Consumer uses (SU21) |
| **Product Categories** | Fuels (PC13) |

### Environment Contributing Scenario

| | |
|---|---|
| **CS1 Covered by** | ERC9a - ERC9b |

### Consumer Contributing Scenario

| | |
|---|---|
| **CS2 Consumer** | PC13 |

## 3.2 Conditions of use affecting exposure

### 3.2. CS1: Environment Contributing Scenario: Covered by (ERC9a, ERC9b)

| | |
|---|---|
| **Environmental release categories** | Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b) |

### 3.2. CS2: Consumer Contributing Scenario: Consumer (PC13)

| | |
|---|---|
| **Product Categories** | Fuels (PC13) |

## 3.3 Exposure estimation and reference to its source

N/A

## 3.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.