

# SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)



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

### 1.1. Product identifier

Product name : BOOST AND CLEAN MOTO

Product code : 46352

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

Additive

### 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 : 33.1.48.11.70.00. Fax: 33.1.48.33.28.79. Telex: .

Email : motul\_hse@motul.fr

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

Association/Organisation : ORFILA.

### Other emergency numbers

BRAZIL : +55 11 3197 5891 / COLOMBIA : +57 601 508 7337 / ARGENTINA : +54 11 5984 3690 / CHILE : +562 2582 9336

Ireland : +353 1 8092566

UNITED STATES: 001 866 928 0789 / CANADA: 001 800 579 7421 / MEXICO : +52 55 5004 8763 / MIDDLE EAST - AFRICA : +44 1235 239671

24 hours a day, 7 days a week

## SECTION 2 : HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

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

Flammable liquid, Category 2 (Flam. Liq. 2, H225).

Acute dermal toxicity, Category 4 (Acute Tox. 4, H312).

Acute inhalation toxicity, Category 4 (Acute Tox. 4, H332).

Skin irritation, Category 2 (Skin Irrit. 2, H315).

Eye irritation, Category 2 (Eye Irrit. 2, H319).

Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H335).

Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H336).

Specific target organ toxicity (repeated exposure), Category 2 (STOT RE 2, H373).

Aspiration hazard, Category 1 (Asp. Tox. 1, H304).

Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

### 2.2. Label elements

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

Hazard pictograms :



GHS09



GHS08



GHS02



GHS07

Signal Word :

DANGER

Product identifiers :

EC 215-535-7

XYLENE

EC 202-849-4

ETHYLBENZENE

EC 920-134-1

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

EC 919-857-5

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

Hazard statements :

H225

Highly flammable liquid and vapour.

H304

May be fatal if swallowed and enters airways.

H312 + H332

Harmful in contact with skin or if inhaled.

H315

Causes skin irritation.

|                                         |                                                                                                                                  |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| H319                                    | Causes serious eye irritation.                                                                                                   |
| H335                                    | May cause respiratory irritation.                                                                                                |
| H336                                    | May cause drowsiness or dizziness.                                                                                               |
| H373                                    | May cause damage to organs through prolonged or repeated exposure (if inhaled).                                                  |
| H411                                    | Toxic to aquatic life with long lasting effects.                                                                                 |
| Precautionary statements - General :    |                                                                                                                                  |
| P101                                    | If medical advice is needed, have product container or label at hand.                                                            |
| 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.                                   |
| P260                                    | Do not breathe vapours                                                                                                           |
| P264                                    | Wash hands thoroughly after handling.                                                                                            |
| P271                                    | Use only outdoors or in a well-ventilated area.                                                                                  |
| P273                                    | Avoid release to the environment.                                                                                                |
| P280                                    | Wear protective gloves/protective clothing/eye protection/face protection.                                                       |
| Precautionary statements - Response :   |                                                                                                                                  |
| P301 + P310                             | IF SWALLOWED: Immediately call a POISON CENTER/doctor/...                                                                        |
| P302 + P352                             | IF ON SKIN: Wash with plenty of water                                                                                            |
| P304 + P340                             | IF INHALED: Remove person to fresh air and keep comfortable for breathing.                                                       |
| P305 + P351 + P338                      | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P314                                    | Get medical advice/attention if you feel unwell.                                                                                 |
| P331                                    | Do NOT induce vomiting.                                                                                                          |
| P332 + P313                             | If skin irritation occurs: Get medical advice/attention.                                                                         |
| P337 + P313                             | If eye irritation persists: Get medical advice/attention.                                                                        |
| P391                                    | Collect spillage.                                                                                                                |
| Precautionary statements - Storage :    |                                                                                                                                  |
| P403 + P235                             | Store in a well-ventilated place. Keep cool.                                                                                     |
| P405                                    | Store locked up.                                                                                                                 |
| Precautionary statements - Disposal :   |                                                                                                                                  |
| P501                                    | Dispose of contents / container according to prefectural ordinances.                                                             |

### 2.3. Other hazards

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

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

The mixture does not contain substances  $\geq 0.1\%$  with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

## SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

#### Composition :

| Identification                                     | Classification (EC) 1272/2008                                                                                                                                                                        | Note | %                   |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------|
| CAS: 1330-20-7<br>EC: 215-535-7<br><br>XYLENE      | GHS07, GHS08, GHS02<br>Dgr<br>Flam. Liq. 3, H226<br>Asp. Tox. 1, H304<br>Acute Tox. 4, H312<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Acute Tox. 4, H332<br>STOT SE 3, H335<br>STOT RE 2, H373 | [1]  | 50 $\leq$ x % < 100 |
| CAS: 100-41-4<br>EC: 202-849-4<br><br>ETHYLBENZENE | GHS07, GHS08<br>Dgr<br>Asp. Tox. 1, H304<br>Acute Tox. 4, H332<br>STOT RE 2, H373                                                                                                                    | [1]  | 10 $\leq$ x % < 25  |
| EC: 920-134-1<br>REACH: 01-2119480153-44           | GHS09, GHS07, GHS08, GHS02<br>Dgr                                                                                                                                                                    |      | 10 $\leq$ x % < 25  |

|                                                                                                                    |                                                                                                                                                                                                                                 |            |                 |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|
| HYDROCARBONS, C9-C11,<br>ISOALKANES, CYCLICS, <2%<br>AROMATICS                                                     | Flam. Liq. 3, H226<br>Asp. Tox. 1, H304<br>STOT SE 3, H336<br>Aquatic Chronic 2, H411<br>EUH:066                                                                                                                                |            |                 |
| CAS: 64742-48-9<br>EC: 919-857-5<br><br>HYDROCARBONS, C9-C11,<br>N-ALKANES, ISOALKANES, CYCLICS,<br>< 2% AROMATICS | GHS07, GHS08, GHS02<br>Dgr<br>Flam. Liq. 3, H226<br>Asp. Tox. 1, H304<br>STOT SE 3, H336<br>EUH:066                                                                                                                             |            | 10 <= x % < 25  |
| CAS: 64742-94-5<br>EC: 919-284-0<br>REACH: 01-2119463588-24<br><br>SOLVENT NAPHTHA (PETROLEUM),<br>HEAVY AROM.     | GHS09, GHS07, GHS08<br>Dgr<br>Asp. Tox. 1, H304<br>STOT SE 3, H336<br>Aquatic Chronic 2, H411<br>EUH:066                                                                                                                        |            | 2.5 <= x % < 10 |
| CAS: 67-63-0<br>EC: 200-661-7<br>REACH: 01-2119457558-25<br><br>PROPAN-2-OL                                        | GHS07, GHS02<br>Dgr<br>Flam. Liq. 2, H225<br>Eye Irrit. 2, H319<br>STOT SE 3, H336                                                                                                                                              | [1]        | 2.5 <= x % < 10 |
| CAS: -<br>EC: -<br><br>POLYETHERAMINE                                                                              | GHS07, GHS09<br>Wng<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Aquatic Chronic 2, H411                                                                                                                                     |            | 0 <= x % < 2.5  |
| CAS: 91-20-3<br>EC: 202-049-5<br><br>NAPHTALENE                                                                    | GHS07, GHS09, GHS08<br>Wng<br>Acute Tox. 4, H302<br>Carc. 2, H351<br>Aquatic Acute 1, H400<br>M Acute = 1<br>Aquatic Chronic 1, H410<br>M Chronic = 1                                                                           | [1]<br>[2] | 0 <= x % < 2.5  |
| CAS: 102-54-5<br>EC: 203-039-3<br>REACH: 01-2119978280-34<br><br>FERROCENE                                         | GHS08, GHS07, GHS09, GHS02<br>Dgr<br>Flam. Sol. 1, H228<br>Acute Tox. 4, H302<br>Acute Tox. 4, H332<br>Repr. 1B, H360FD<br>STOT RE 2, H373<br>Aquatic Acute 1, H400<br>M Acute = 1<br>Aquatic Chronic 1, H410<br>M Chronic = 10 | [1]<br>[2] | 0 <= x % < 2.5  |

**Specific concentration limits:**

| Identification                                     | Specific concentration limits | ATE                                                                      |
|----------------------------------------------------|-------------------------------|--------------------------------------------------------------------------|
| CAS: 1330-20-7<br>EC: 215-535-7<br><br>XYLENE      |                               | inhalation: ATE = 11 mg/l 4h<br>(vapours)<br>dermal: ATE = 1100 mg/kg BW |
| CAS: 100-41-4<br>EC: 202-849-4<br><br>ETHYLBENZENE |                               | inhalation: ATE = 11 mg/l<br>(vapours)                                   |

|                                                                         |  |                                                           |
|-------------------------------------------------------------------------|--|-----------------------------------------------------------|
| CAS: 67-63-0<br>EC: 200-661-7<br>REACH: 01-2119457558-25                |  | dermal: ATE = 12857 mg/kg BW<br>oral: ATE = 5840 mg/kg BW |
| PROPAN-2-OL<br>CAS: 91-20-3<br>EC: 202-049-5                            |  | oral: ATE = 500 mg/kg BW                                  |
| NAPHTALENE<br>CAS: 102-54-5<br>EC: 203-039-3<br>REACH: 01-2119978280-34 |  | oral: ATE = 1350 mg/kg BW                                 |
| FERROCENE                                                               |  |                                                           |

**Information on ingredients :**

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

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

[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

**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.

Do not proceed with mouth-to-mouth or mouth-to-nose resuscitation. Use the appropriate equipment.

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.

Wash immediately and abundantly with water, including under the eyelids.

**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.

Remove any soiled or splashed clothing immediately.

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.

Seek medical attention immediately, showing 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**

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

Dry agent, foam, carbon dioxide.

**Unsuitable methods of extinction**

High volume 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**

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.

Remove contaminated clothing and protective equipment before entering eating areas.

Do not swallow

Do not get in eyes, on skin, or on clothing.

**Fire prevention :**

Handle in well-ventilated areas.

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

Never inhale this mixture.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged: always ground when decanting. Wear antistatic shoes and clothing and make floors of non-conductive

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 inhale vapours.

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.  
Avoid exposure - obtain special instructions before use.  
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.  
Avoid accumulation of electrostatic charges.

**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 (2022/431, 2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

| CAS       | VME-mg/m3 : | VME-ppm : | VLE-mg/m3 : | VLE-ppm : | Notes : |
|-----------|-------------|-----------|-------------|-----------|---------|
| 1330-20-7 | 221         | 50        | 442         | 100       | Peau    |
| 100-41-4  | 442         | 100       | 884         | 200       | Peau    |

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

| CAS       | TWA :    | STEL :  | Ceiling : | Definition : | Criteria : |
|-----------|----------|---------|-----------|--------------|------------|
| 1330-20-7 | 100 ppm  | 150 ppm | -         | A4; BEI      | -          |
| 100-41-4  | 20 ppm   | -       | -         | A3; BEI      | -          |
| 67-63-0   | 200 ppm  | 400 ppm | -         | A4; BEI      | -          |
| 91-20-3   | 10 ppm   | 15 ppm  | -         | Skin; A4     | -          |
| 102-54-5  | 10 mg/m3 | -       | -         | -            | -          |

- Germany - AGW (BAuA - TRGS 900, 02/2022) :

| CAS       | VME : | VME :                | Excess | Notes | - |
|-----------|-------|----------------------|--------|-------|---|
| 1330-20-7 | -     | 50 ppm<br>220 mg/m3  | -      | 2(II) | - |
| 100-41-4  | -     | 20 ppm<br>88 mg/m3   | -      | 2(II) | - |
| 67-63-0   | -     | 200 ppm<br>500 mg/m3 | -      | 2(II) | - |
| 91-20-3   | -     | 0.4 ppm<br>2 mg/m3   | -      | 4(I)  | - |

- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :

| CAS       | VME-ppm : | VME-mg/m3 : | VLE-ppm : | VLE-mg/m3 : | Notes : | TMP No :     |
|-----------|-----------|-------------|-----------|-------------|---------|--------------|
| 1330-20-7 | 50        | 221         | 100       | 442         | *       | 4 Bis. 84. * |
| 100-41-4  | 20        | 88.4        | 100       | 442         | *       | 84           |
| 67-63-0   | -         | -           | 400       | 980         | -       | 84           |
| 91-20-3   | 10        | 50          | -         | -           | C3      | -            |
| 102-54-5  | -         | 10          | -         | -           | -       | -            |

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

| CAS       | TWA :               | STEL :               | Ceiling : | Definition : | Criteria : |
|-----------|---------------------|----------------------|-----------|--------------|------------|
| 1330-20-7 | 50 ppm<br>220 mg/m3 | 100 ppm<br>441 mg/m3 | -         | Sk. BMGV     | -          |

|          |                      |                       |   |    |   |
|----------|----------------------|-----------------------|---|----|---|
| 100-41-4 | 100 ppm<br>441 mg/m3 | 125 ppm<br>552 mg/m3  | - | Sk | - |
| 67-63-0  | 400 ppm<br>999 mg/m3 | 500 ppm<br>1250 mg/m3 | - | -  | - |

## 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

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 EN ISO 374-1.

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 :

|                     |          |   |   |   |   |
|---------------------|----------|---|---|---|---|
| Glove thickness:    | 0.38 mm  | - | - | - | - |
| Break-through time: | > 480 mn | - | - | - | - |

#### - 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/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 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 inhaling vapors.

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.

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

- A1 (Brown)

- A3 (Brown)

Breathing apparatus only when aerosol or spray are formed.

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

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

#### Physical state

|                  |               |
|------------------|---------------|
| Physical state : | Fluid liquid. |
|------------------|---------------|

#### Colour

|        |        |
|--------|--------|
| Color: | yellow |
|--------|--------|

#### Odour

|                   |             |
|-------------------|-------------|
| Odour threshold : | Not stated. |
|-------------------|-------------|

#### Melting point

|                               |               |
|-------------------------------|---------------|
| Melting point/melting range : | Not relevant. |
|-------------------------------|---------------|

#### Freezing point

|                                                                 |                                 |
|-----------------------------------------------------------------|---------------------------------|
| Freezing point / Freezing range :                               | Not stated.                     |
| <b>Boiling point or initial boiling point and boiling range</b> |                                 |
| Boiling point/boiling range :                                   | >82°C                           |
| <b>Flammability</b>                                             |                                 |
| Flammability (solid, gas) :                                     | Not stated.                     |
| <b>Lower and upper explosion limit</b>                          |                                 |
| Explosive properties, lower explosivity limit (%) :             | 0.6 vol %                       |
| Explosive properties, upper explosivity limit (%) :             | 12 vol %                        |
| <b>Flash point</b>                                              |                                 |
| Flash Point :                                                   | 14.00 °C.                       |
| <b>Auto-ignition temperature</b>                                |                                 |
| Self-ignition temperature :                                     | Not relevant.                   |
| <b>Decomposition temperature</b>                                |                                 |
| Decomposition point/decomposition range :                       | Not relevant.                   |
| <b>pH</b>                                                       |                                 |
| pH (aqueous solution) :                                         | Not stated.                     |
| pH :                                                            | Not relevant.                   |
| <b>Kinematic viscosity</b>                                      |                                 |
| Viscosity :                                                     | Not stated.                     |
| Viscosity:                                                      | v < 7 mm <sup>2</sup> /s (40°C) |
| <b>Solubility</b>                                               |                                 |
| Water solubility :                                              | Insoluble.                      |
| Fat solubility :                                                | Not stated.                     |
| <b>Partition coefficient n-octanol/water (log value)</b>        |                                 |
| Partition coefficient: n-octanol/water :                        | Not stated.                     |
| <b>Vapour pressure</b>                                          |                                 |
| Vapour pressure (50°C) :                                        | Not relevant.                   |
| <b>Density and/or relative density</b>                          |                                 |
| Density :                                                       | < 1                             |
| <b>Relative vapour density</b>                                  |                                 |
| Vapour density :                                                | Not stated.                     |

**Particle characteristics**

The mixture does not contain nanoforms.

**9.2. Other information**

No data available.

**9.2.1. Information with regard to physical hazard classes**

No data available.

**9.2.2. Other safety characteristics**

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**

No data available.

**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 :

- accumulation of electrostatic charges.
- heating
- heat
- flames and hot surfaces

Keep away from heat and from sources of ignition

Take precautionary measures against static discharges.

#### 10.5. Incompatible materials

Strong oxidants  
Acids

#### 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 hazard classes as defined in Regulation (EC) No 1272/2008

Harmful in contact with skin.

Harmful by inhalation.

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.

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

Respiratory tract irritation may occur, together with symptoms such as coughing, choking and breathing difficulties.

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.

May cause severe damage to organs in the event of repeated or prolonged exposure.

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 :

ETHYLBENZENE (CAS: 100-41-4)

Inhalation route (Vapours) :

LC50 = 11 mg/l

XYLENE (CAS: 1330-20-7)

Dermal route :

LD50 = 1100 mg/kg bodyweight/day

Inhalation route (Vapours) :

LC50 = 11 mg/l

Duration of exposure : 4 h

FERROCENE (CAS: 102-54-5)

Oral route :

LD50 = 1350

Species : Rat

OECD Guideline 401 (Acute Oral Toxicity)

Dermal route :

LD50 > 3000

OECD Guideline 402 (Acute Dermal Toxicity)

Inhalation route (Vapours) :

LC50 11 mg/l

Duration of exposure : 4 h

NAPHTALENE (CAS: 91-20-3)

Oral route :

LD50 = 500 mg/kg bodyweight/day

POLYETHERAMINE (CAS: -)

Oral route :

LD50 > 5000 mg/kg bodyweight/day

Species : Rat

Dermal route :

LD50 > 2000 mg/kg bodyweight/day

Species : Rabbit

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

Oral route :

LD50 = 5840

Species : Rat

OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method)

Dermal route :

LD50 = 12857

Species : Rabbit

OECD Guideline 402 (Acute Dermal Toxicity)

|                                                                                                        |                                                                                      |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Inhalation route (n/a) :                                                                               | LC50 > 10000 mg/l<br>Species : Rat<br>OECD Guideline 403 (Acute Inhalation Toxicity) |
| HYDROCARBONS, C9-C11, N-ALKANES, ISOALKANES, CYCLICS, < 2% AROMATICS (CAS: 64742-48-9)<br>Oral route : | LD50 > 5000 mg/kg<br>Species : Rat                                                   |
| Dermal route :                                                                                         | LD50 > 5000 mg/kg<br>Species : Rabbit                                                |
| Inhalation route (Dusts/mist) :                                                                        | LC50 > 5 mg/l<br>Species : Rat                                                       |
| HYDROCARBONS, C9-C11, ISOALKANES, CYCLICS, <2% AROMATICS<br>Oral route :                               | LD50 > 5000 mg/kg<br>Species : Rat                                                   |
| Dermal route :                                                                                         | LD50 > 5000 mg/kg<br>Species : Rabbit                                                |
| Inhalation route (Dusts/mist) :                                                                        | LC50 > 5 mg/l<br>Species : Rat                                                       |

#### 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

#### 11.2. Information on other hazards

## SECTION 12 : ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

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

#### 12.1. Toxicity

##### 12.1.1. Substances

POLYETHERAMINE (CAS: -)

Fish toxicity : 1 < LC50 <= 10 mg/l  
Duration of exposure : 96 h

Algae toxicity : 10 < ECr50 <= 100 mg/l  
Duration of exposure : 72 h

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

Fish toxicity : LC50 > 100 mg/l  
Species : Leuciscus idus  
Duration of exposure : 96 h

Crustacean toxicity : EC50 > 100 mg/l  
Species : Daphnia magna  
Duration of exposure : 48 h

Algae toxicity : ECr50 > 100 mg/l  
Species : Scenedesmus subspicatus  
Duration of exposure : 72 h

HYDROCARBONS, C9-C11, N-ALKANES, ISOALKANES, CYCLICS, < 2% AROMATICS (CAS: 64742-48-9)

Fish toxicity : LC50 > 1000 mg/l  
Species : *Oncorhynchus mykiss*  
Duration of exposure : 96 h

Crustacean toxicity : EC50 > 1000 mg/l  
Species : *Daphnia magna*  
Duration of exposure : 48 h

Algae toxicity : ECr50 > 1000 mg/l  
Species : *Pseudokirchnerella subcapitata*  
Duration of exposure : 72 h

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

Fish toxicity : LC50 = 3.6 mg/l  
Species : *Oncorhynchus mykiss*  
Duration of exposure : 96 h  
OCDE Ligne directrice 203 (Poisson, essai de toxicité aiguë)

Crustacean toxicity : EC50 = 22 mg/l  
Species : *Daphnia magna*  
Duration of exposure : 48 h  
OCDE Ligne directrice 202 (*Daphnia* sp., essai d'immobilisation immédiate)

Algae toxicity : ECr50 > 1000 mg/l  
Species : *Pseudokirchnerella subcapitata*  
Duration of exposure : 72 h  
OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

FERROCENE (CAS: 102-54-5)

Fish toxicity : LC50 = 12.3 mg/l  
Species : *Leuciscus idus melanotus*  
Duration of exposure : 96 h  
  
NOEC 1.5 mg/l  
Species : *Leuciscus idus melanotus*  
Duration of exposure : 14 jours  
OCDE Ligne directrice 204 (Poisson, toxicité prolongée étude sur 14 jours)

Crustacean toxicity : EC50 2.5 mg/l  
Species : *Daphnia magna*  
Duration of exposure : 48 h  
OCDE Ligne directrice 202 (*Daphnia* sp., essai d'immobilisation immédiate)

NOEC = 0.0015 mg/l  
Factor M = 10  
Species : *Daphnia magna*  
Duration of exposure : 21 jours  
OCDE Ligne directrice 211 (*Daphnia magna*, essai de reproduction)

Algae toxicity : ECr50 1.03 mg/l  
Duration of exposure : 72 h  
OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

**12.1.2. Mixtures**

No aquatic toxicity data available for the mixture.

**12.2. Persistence and degradability**

**12.2.1. Substances**

FERROCENE (CAS: 102-54-5)

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



POLYETHERAMINE (CAS: -)

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

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

Biodegradability : Rapidly degradable.

HYDROCARBONS, C9-C11, N-ALKANES, ISOALKANES, CYCLICS, < 2% AROMATICS (CAS: 64742-48-9)

Biodegradability : Rapidly degradable.

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

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

### 12.3. Bioaccumulative potential

#### 12.3.1. Substances

FERROCENE (CAS: 102-54-5)

Octanol/water partition coefficient : log K<sub>ow</sub> 3.7

### 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. Endocrine disrupting properties

No data available.

### 12.7. Other adverse effects

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

## SECTION 13 : DISPOSAL CONSIDERATIONS

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

### 13.1. Waste treatment methods

Do not pour into drains or waterways.

#### Waste :

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

Recycle or dispose of waste in compliance with current legislation, 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 2023 - IMDG 2022 [41-22] - ICAO/IATA 2023 [64]).

### 14.1. UN number or ID number

1993

### 14.2. UN proper shipping name

UN1993=FLAMMABLE LIQUID, N.O.S.

(xylene, ethylbenzene)

### 14.3. Transport hazard class(es)

- Classification :



3

**14.4. Packing group**

II

**14.5. Environmental hazards**

- Environmentally hazardous material :

**14.6. Special precautions for user**

| ADR/RID | Class | Code    | Pack gr. | Label    | Ident.   | LQ      | Provis.      | EQ               | Cat.        | Tunnel |
|---------|-------|---------|----------|----------|----------|---------|--------------|------------------|-------------|--------|
|         | 3     | F1      | II       | 3        | 33       | 1 L     | 274 601 640C | E2               | 2           | D/E    |
| IMDG    | Class | 2°Label | Pack gr. | LQ       | EMS      | Provis. | EQ           | Stowage Handling | Segregation |        |
|         | 3     | -       | II       | 1 L      | F-E, S-E | 274     | E2           | Category B       | -           |        |
| IATA    | Class | 2°Label | Pack gr. | Passager | Passager | Cargo   | Cargo        | note             | EQ          |        |
|         | 3     | -       | II       | 353      | 5 L      | 364     | 60 L         | A3               | E2          |        |
|         | 3     | -       | II       | Y341     | 1 L      | -       | -            | A3               | E2          |        |

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.

Marine pollutant (IMDG 3.1.2.9):(ferrocene)

**14.7. Maritime transport in bulk according to IMO instruments**

No data available.

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

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

**Container information:**

Packaging to be fitted with child-resistant fastenings (see EC Regulation No. 1272/2008, Annex II, Part 3).

Containers to be fitted with a tactile warning of danger (see EC Regulation No. 1272/2008, Annex II, Part 3).

**Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):**

The mixture does not contain any substance restricted under Annex XVII of Regulation (EC) No. 1907/2006 (REACH):

<https://echa.europa.eu/substances-restricted-under-reach>.**Explosives precursors :**

The mixture does not contain any substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

**Particular provisions :**

No data available.

**15.2. Chemical safety assessment**

No data available.

**SECTION 16 : OTHER INFORMATION**

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

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

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

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

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

|      |                                               |
|------|-----------------------------------------------|
| H225 | Highly flammable liquid and vapour.           |
| H226 | Flammable liquid and vapour.                  |
| H228 | Flammable solid.                              |
| H302 | Harmful if swallowed.                         |
| H304 | May be fatal if swallowed and enters airways. |
| H312 | Harmful in contact with skin.                 |

|        |                                                                     |
|--------|---------------------------------------------------------------------|
| H315   | Causes skin irritation.                                             |
| H319   | Causes serious eye irritation.                                      |
| H332   | Harmful if inhaled.                                                 |
| H335   | May cause respiratory irritation.                                   |
| H336   | May cause drowsiness or dizziness.                                  |
| H351   | Suspected of causing cancer .                                       |
| H360FD | May damage fertility. May damage the unborn child.                  |
| H373   | May cause damage to organs through prolonged or repeated exposure . |
| H400   | Very toxic to aquatic life.                                         |
| H410   | Very toxic to aquatic life with long lasting effects.               |
| H411   | Toxic to aquatic life with long lasting effects.                    |
| EUH066 | Repeated exposure may cause skin dryness or cracking.               |

**Abbreviations and acronyms :**

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.  
LC50 : The concentration of a test substance resulting in 50% lethality in a given period.  
EC50 : The effective concentration of substance that causes 50% of the maximum response.  
ECr50 : The effective concentration of substance that causes 50% reduction in growth rate.  
NOEC : The concentration with no observed effect.  
REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.  
ATE : Acute Toxicity Estimate  
BW : Body Weight  
CMR: Carcinogenic, mutagenic or reprotoxic.  
STEL : Short-term exposure limit  
TWA : Time Weighted Averages  
TMP : French Occupational Illness table  
TLV : Threshold Limit Value (exposure)  
AEV : Average Exposure Value.  
ADR : European agreement concerning the international carriage of dangerous goods by Road.  
IMDG : International Maritime Dangerous Goods.  
IATA : International Air Transport Association.  
ICAO : International Civil Aviation Organisation  
RID : Regulations concerning the International carriage of Dangerous goods by rail.  
WGK : Wassergefährdungsklasse (Water Hazard Class).  
GHS02 : Flame  
GHS07 : Exclamation mark  
GHS08 : Health hazard  
GHS09 : Environment  
PBT: Persistent, bioaccumulable and toxic.  
vPvB : Very persistent, very bioaccumulable.  
SVHC : Substances of very high concern.