

SAFETY DATA SHEET



Flux-Off®Rosin

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

1.1 Product identifier

Product name : Flux-Off®Rosin
Product code : ES835BE, ES1035E
Product description : Flux Remover
Product type : Aerosol.
Other means of identification : Fluxing agents Remover.
Industrial/Professional use
UFI:WXA8-COHT-AOOA-VCM8

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

Not applicable.

1.3 Details of the supplier of the safety data sheet

Manufacturer
Chemtronics
8125 Cobb Center Drive
Kennesaw, GA 30152

Tel. 770-424-4888 or toll free 800-645-5244

Distributor

Importer
ITW Contamination Control BV
Saffierlaan 5
VZ-2132 Hoofddorp
The Netherlands

Email: info@itw-cc.com

Tel: +31 88 1307 400
FAX: +31 88 1307 499

e-mail address of person responsible for this SDS : askchemtronics@chemtronics.com

National contact

ITW Contamination Control BV
Saffierlaan 5
VZ-2132 Hoofddorp
The Netherlands

Email: info@itw-cc.com

Tel: +31 88 1307 400
FAX: +31 88 1307 499

1.4 Emergency telephone number

National advisory body/Poison Centre

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

- Telephone number** : EMERGENCY HEALTH INFORMATION:
Austria +43 1 31304 5620, Belgium +32022649636, Bulgaria +359 2 9154 409,
Croatia +38514686910,
Cyprus +3572240561, Czech Republic +420267082257, Denmark +45 72 54 40 00,
Estonia +3726943384,
Finland +358 5052 000, France +33 3 85 21 92, Germany +49-30-18412-0, Greece
+302106479250,
Hungary +34 (1) 476 1136, Ireland +35318092566, Italy +390649906140, Latvia
+371 67032600,
Lithuania +370 70662008, Luxembourg +352 24785551, Netherland +31 88 75 585
61,
Norway +47 21 07 70 00, Poland +48 42 2530 400, Portugal +351213303271,
Romania +40213183606,
Slovakia +421 2 5465 2307, Slovenia +38614006039, Spain +34 917689800,
Sweden +46104566750
United Kingdom (England or Wales) 0845 46 47 or Scotland 08454 24 24 24 (UK
only).
- Supplier**
- Telephone number** : Chemtronics Product Information: 800-TECH-401 (800-832-4401)
Chemtronics Customer Service: 800-645-5244
- Hours of operation** : 8:00 AM to 5:00 PM
- Information limitations** : EMERGENCY HEALTH INFORMATION:
EMERGENCY SPILL INFORMATION:
Transport information

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aerosol 1, H222, H229

Skin Irrit. 2, H315

Eye Irrit. 2, H319

STOT SE 3, H336

Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : 78.5 percent of the mixture consists of component(s) of unknown toxicity

Ingredients of unknown ecotoxicity : Contains 25 % of components with unknown hazards to the aquatic environment

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

SECTION 2: Hazards identification

- Hazard statements** : Extremely flammable aerosol.
 Pressurised container: May burst if heated.
 Causes serious eye irritation.
 Causes skin irritation.
 May cause drowsiness or dizziness.
 Toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Avoid release to the environment. Do not pierce or burn, even after use.
- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
- Storage** : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazardous ingredients** : 2-methylpentane (containing < 5 % n-hexane (203-777-6))
 3-methylpentane
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
- Containers to be fitted with child-resistant fastenings** : Not applicable.
- Tactile warning of danger** : Not applicable.

2.3 Other hazards

- Other hazards which do not result in classification** : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

| Product/ingredient name | Identifiers | % | Regulation (EC) No. 1272/2008 [CLP] | Type |
|---|---|-----------|--|------|
| 2-methylpentane (containing < 5 % n-hexane (203-777-6)) | EC: 203-523-4 CAS: 107-83-5 Index: 601-007-00-7 | ≥25 - ≤50 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 | [1] |
| 3-methylpentane | EC: 202-481-4 CAS: 96-14-0 Index: 601-007-00-7 | ≥10 - ≤25 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 | [1] |
| ethanol | EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5 | ≥10 - ≤25 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 2, | [1] |

SECTION 3: Composition/information on ingredients

| | | | | |
|--------------------|---|-----|--|---------|
| 2,2-dimethylbutane | EC: 200-906-8 CAS: 75-83-2 Index: 601-007-00-7 | ≤10 | H411 Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 | [1] |
| 2,3-dimethylbutane | EC: 201-193-6 CAS: 79-29-8 Index: 601-007-00-7 | ≤10 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 | [1] |
| propan-2-ol | EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0 | ≤10 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 | [1] |
| n-hexane | EC: 203-777-6 CAS: 110-54-3 Index: 601-037-00-0 | <1 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361f (Fertility) STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above. | [1] [2] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Adverse symptoms may include the following:
Irritating to mouth, throat and stomach.
stomach pains
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

- Hazards from the substance or mixture** : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- 5.3 Advice for firefighters**
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

SECTION 6: Accidental release measures

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

Named substances

| Name | Notification and MAPP threshold | Safety report threshold |
|--|---------------------------------|-------------------------|
| Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas | 50 | 200 |

Danger criteria

| Category | Notification and MAPP threshold | Safety report threshold |
|---|---------------------------------|-------------------------|
| P3a: Flammable aerosols containing flammable gases or flammable liquids | 150 | 500 |
| E2: Hazardous to the aquatic environment - Chronic 2 | 200 | 500 |

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

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SECTION 8: Exposure controls/personal protection

| Product/ingredient name | Exposure limit values |
|-------------------------|---|
| n-hexane | EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values TWA: 72 mg/m ³ 8 hours. TWA: 20 ppm 8 hours. |

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

SECTION 8: Exposure controls/personal protection

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid. [Aerosol.]
- Colour** : Not available.
- Odour** : Hydrocarbon. Characteristic. [Slight]
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: -29°C
- Evaporation rate** : >1 (butyl acetate = 1)
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : Not available.
- Solubility(ies)** : Not available.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

9.2 Other information

- Solubility in water** : Not available.
- Type of aerosol** : Spray
- Heat of combustion** : 29.8 kJ/g

No additional information.

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SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).
- 10.5 Incompatible materials** : No specific data.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|------------------------|---------|--------------------------|----------|
| ethanol | LC50 Inhalation Vapour | Rat | 124700 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| propan-2-ol | LD50 Dermal | Rabbit | 12800 mg/kg | - |
| | LD50 Oral | Rat | 5000 mg/kg | - |
| n-hexane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LD50 Oral | Rat | 15840 mg/kg | - |

Conclusion/Summary : Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|------------------------------------|-------------|
| ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.066666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Eyes - Severe irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| propan-2-ol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 10 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| n-hexane | Eyes - Mild irritant | Rabbit | - | 10 milligrams | - |

Conclusion/Summary : Not available.

Sensitisation

Conclusion/Summary : Not available.

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SECTION 11: Toxicological information

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|------------|-------------------|------------------|
| 2-methylpentane (containing < 5 % n-hexane (203-777-6)) | Category 3 | Not applicable. | Narcotic effects |
| 3-methylpentane | Category 3 | Not applicable. | Narcotic effects |
| 2,2-dimethylbutane | Category 3 | Not applicable. | Narcotic effects |
| 2,3-dimethylbutane | Category 3 | Not applicable. | Narcotic effects |
| propan-2-ol | Category 3 | Not applicable. | Narcotic effects |
| n-hexane | Category 3 | Not applicable. | Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|------------|-------------------|----------------|
| n-hexane | Category 2 | Not determined | Not determined |

Aspiration hazard

| Product/ingredient name | Result |
|---|--------------------------------|
| 2-methylpentane (containing < 5 % n-hexane (203-777-6)) | ASPIRATION HAZARD - Category 1 |
| 3-methylpentane | ASPIRATION HAZARD - Category 1 |
| 2,2-dimethylbutane | ASPIRATION HAZARD - Category 1 |
| 2,3-dimethylbutane | ASPIRATION HAZARD - Category 1 |
| n-hexane | ASPIRATION HAZARD - Category 1 |

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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SECTION 11: Toxicological information

- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Adverse symptoms may include the following:
Irritating to mouth, throat and stomach.
stomach pains
nausea or vomiting

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

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

- Conclusion/Summary** : Not available.
- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|---|--|----------|
| ethanol | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute EC50 2000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 25500 µg/l Marine water | Crustaceans - Artemia franciscana - Larvae | 48 hours |
| | Acute LC50 42000 µg/l Fresh water | Fish - Oncorhynchus mykiss | 4 days |
| | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Chronic NOEC 100 ul/L Fresh water | Daphnia - Daphnia magna - Neonate | 21 days |
| | Chronic NOEC 0.375 ul/L Fresh water | Fish - Gambusia holbrooki - Larvae | 12 weeks |
| propan-2-ol | Acute LC50 1400000 to 1950000 µg/l Marine water | Crustaceans - Crangon crangon | 48 hours |
| n-hexane | Acute LC50 4200 mg/l Fresh water | Fish - Rasbora heteromorpha | 96 hours |
| | Acute LC50 113000 µg/l Fresh water | Fish - Oreochromis mossambicus | 96 hours |

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|---------|-----------|
| 3-methylpentane | 3.6 | - | low |
| ethanol | -0.35 | - | low |
| 2,2-dimethylbutane | 3.82 | - | low |
| 2,3-dimethylbutane | 3.42 | - | low |
| propan-2-ol | 0.05 | - | low |
| n-hexane | 4 | 501.187 | high |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.






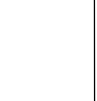
Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|--|--|---|--|
| 14.1 UN number | 1950 | 1950 | 1950 | 1950 |
| 14.2 UN proper shipping name | Aerosols, flammable | Aerosols, flammable | Aerosols, flammable | Aerosols, flammable (2-methylpentane) |
| 14.3 Transport hazard class(es) | 2.1   | 2.1   | 2.1  | 2.1  |
| 14.4 Packing group | - | - | - | - |

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SECTION 14: Transport information

| 14.5 Environmental hazards | Yes. | Yes. | No. | No. |
|-------------------------------|---|--|------------------|--|
| Additional information | The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Tunnel code (D) | The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. | Limited quantity | The environmentally hazardous substance mark may appear if required by other transportation regulations. |

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Aerosol dispensers :

3



Extremely flammable

Seveso Directive

This product is controlled under the Seveso Directive.

Named substances

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SECTION 15: Regulatory information

Name

Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas

Danger criteria

Category

P3a: Flammable aerosols containing flammable gases or flammable liquids
E2: Hazardous to the aquatic environment - Chronic 2

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

| | |
|--------------------------|---|
| Australia | : All components are listed or exempted. |
| Canada | : All components are listed or exempted. |
| China | : All components are listed or exempted. |
| Japan | : Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : Not determined. |
| Malaysia | : Not determined. |
| New Zealand | : All components are listed or exempted. |
| Philippines | : All components are listed or exempted. |
| Republic of Korea | : All components are listed or exempted. |
| Taiwan | : All components are listed or exempted. |
| Turkey | : Not determined. |
| United States | : All components are listed or exempted. |

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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SECTION 16: Other information

| Classification | Justification |
|--|---|
| Aerosol 1, H222, H229 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Aquatic Chronic 2, H411 | On basis of test data Calculation method Calculation method Calculation method Calculation method |

Full text of abbreviated H statements

| | |
|------------|--|
| H222, H229 | Extremely flammable aerosol. Pressurised container: May burst if heated. |
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |

Full text of classifications [CLP/GHS]

| | |
|--|---|
| Aerosol 1, H222, H229 Aquatic Chronic 2, H411 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Flam. Liq. 2, H225 Repr. 2, H361f Skin Irrit. 2, H315 STOT RE 2, H373 STOT SE 3, H336 | AEROSOLS - Category 1 LONG-TERM AQUATIC HAZARD - Category 2 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 REPRODUCTIVE TOXICITY (Fertility) - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 |
|--|---|

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.