# Safety Data Sheet

Copyright,2026, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|---|---|---|---|
| **Document group:** | 44-0833-2 | **Version number:** | 13.00 |
| **Revision date:** | 26/10/2026 | **Supersedes date:** | 22/10/2026 |

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

**1.1. Product identifier**
3M™ Dry Layup Adhesive 09091. 16.5oz, Red

**Product Identification Numbers**
UU-0112-8526-7

7100245774

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

**Identified uses**
Product

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

| | |
|---|---|
| **Address:** | 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT. |
| **Telephone:** | +44 (0)1344 858 000 |
| **E Mail:** | ner-productstewardship@mmm.com |
| **Website:** | www.3M.com/uk |

**1.4. Emergency telephone number**
+44 (0)1344 858 000

## SECTION 2: Hazard identification

**2.1. Classification of the substance or mixture**
**The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain**

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.
Aspiration hazard classification does not apply due to the kinematic viscosity of the product.

**CLASSIFICATION:**
Aerosol, Category 1 - Aerosol 1; H222, H229
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

**2.2. Label elements**
**The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain**

**SIGNAL WORD**
DANGER.

**Symbols**
GHS02 (Flame) |GHS07 (Exclamation mark) |GHS09 (Environment) |

**Pictograms**



| Ingredient | Identifier(s) | EC No. | % by Wt |
|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | 107-83-5 | 203-523-4 | < 44 |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | | 915-687-0 | < 0.25 |

**HAZARD STATEMENTS:**

| | |
|---|---|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurised container: may burst if heated. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P251 | Do not pierce or burn, even after use. |
| P261E | Avoid breathing vapour or spray. |
| P280E | Wear protective gloves. |

**Storage:**

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

Contains 51% of components with unknown hazards to the aquatic environment.

### 2.3. Other hazards

May displace oxygen and cause rapid suffocation.
This material does not contain any substances that are assessed to be a PBT or vPvB

## SECTION 3: Composition/information on ingredients

### 3.1. Substances
Not applicable

### 3.2. Mixtures

| Ingredient | Identifier(s) | % | Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB |
|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | (CAS-No.) 107-83-5<br>(EC-No.) 203-523-4 | < 44 | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Aquatic Chronic 2, H411<br>Nota C |
| Non-volatile Components 2 | Trade Secret | 10 - 30 | Substance not classified as hazardous |
| cyclohexane | (CAS-No.) 110-82-7<br>(EC-No.) 203-806-2 | 10 - 15 | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Aquatic Acute 1, H400,M=1<br>Aquatic Chronic 1, H410,M=1 |
| propane | (CAS-No.) 74-98-6<br>(EC-No.) 200-827-9 | 7 - 13 | Flam. Gas 1A, H220<br>Liquified gas, H280<br>Nota U |
| dimethyl ether | (CAS-No.) 115-10-6<br>(EC-No.) 204-065-8 | 7 - 13 | Flam. Gas 1A, H220<br>Liquified gas, H280<br>Nota U |
| isobutane | (CAS-No.) 75-28-5<br>(EC-No.) 200-857-2 | 7 - 13 | Flam. Gas 1A, H220<br>Liquified gas, H280<br>Nota C,U |
| Non-volatile Components 1 | Trade Secret | 5 - 10 | Substance not classified as hazardous |
| Terpene Phenolic | Trade Secret | < 10 | Substance not classified as hazardous |
| ethanol | (CAS-No.) 64-17-5<br>(EC-No.) 200-578-6 | < 5 | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319 |
| pentane | (CAS-No.) 109-66-0<br>(EC-No.) 203-692-4 | < 3 | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>STOT SE 3, H336<br>EUH066<br>Aquatic Chronic 2, H411<br>Nota C |
| n-hexane | (CAS-No.) 110-54-3<br>(EC-No.) 203-777-6 | < 1 | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>Repr. 2, H361f<br>STOT SE 3, H336<br>STOT RE 1, H372 |

| | | | |
|---|---|---|---|
| | | | Aquatic Chronic 2, H411 |
| toluene | (CAS-No.) 108-88-3<br>(EC-No.) 203-625-9 | < 1 | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>Repr. 2, H361d<br>STOT SE 3, H336<br>STOT RE 2, H373<br>Aquatic Chronic 3, H412 |
| heptane | (CAS-No.) 142-82-5<br>(EC-No.) 205-563-8 | < 1 | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Aquatic Acute 1, H400,M=1<br>Aquatic Chronic 1, H410,M=1<br>Nota C |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | (CAS-No.) 915-687-0<br>(EC-No.) 915-687-0 | < 0.25 | Skin Sens. 1A, H317<br>Repr. 2, H361f<br>Aquatic Acute 1, H400,M=1<br>Aquatic Chronic 1, H410,M=1 |
| 4-methylpentan-2-one | (CAS-No.) 108-10-1<br>(EC-No.) 203-550-1 | < 0.1 | Flam. Liq. 2, H225<br>Acute Tox. 4, H332(LC50 = 11 mg/l **ATE values per GB MCL**)<br>Eye Irrit. 2, H319<br>Carc. 2, H351<br>STOT SE 3, H336<br>EUH066 |

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.
Please see section 16 for the full text of any H statements referred to in this section

**Specific Concentration Limits**

| Ingredient | Identifier(s) | Specific Concentration Limits |
|---|---|---|
| ethanol | (CAS-No.) 64-17-5<br>(EC-No.) 200-578-6 | (C >= 50%) Eye Irrit. 2, H319 |

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

# SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation**
Remove person to fresh air. Get medical attention.

**Skin contact**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye contact**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

**If swallowed**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
The most important symptoms and effects based on the GB CLP classification include:
Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

**4.3. Indication of any immediate medical attention and special treatment required**
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## SECTION 5: Fire-fighting measures

**5.1. Extinguishing media**
Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**
Closed containers exposed to heat from fire may build pressure and explode.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Hydrocarbons. | During combustion. |
| formaldehyde | During combustion. |
| Carbon monoxide | During combustion. |
| Carbon dioxide. | During combustion. |
| Oxides of nitrogen. | During combustion. |

**5.3. Advice for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

**6.2. Environmental precautions**
For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an

absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

**6.4. Reference to other sections**
Refer to Section 8 and Section 13 for more information

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Not intended for use as a medical device or drug. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Use personal protective equipment (eg. gloves, respirators…) as required.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF. Store away from heat.

**7.3. Specific end use(s)**
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**

**Occupational exposure limits**
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | Identifier(s) | Agency | Limit type | Additional comments |
|---|---|---|---|---|
| 4-methylpentan-2-one | 108-10-1 | UK HSE | TWA:208 mg/m3(50 ppm);STEL:416 mg/m3(100 ppm) | SKIN |
| toluene | 108-88-3 | UK HSE | TWA: 191 mg/m³ (50 ppm); STEL: 384 mg/m³ (100 ppm) | SKIN |
| pentane | 109-66-0 | UK HSE | TWA:1800 mg/m³(600 ppm) | |
| n-hexane | 110-54-3 | UK HSE | TWA:72 mg/m3(20 ppm) | |
| cyclohexane | 110-82-7 | UK HSE | TWA:350 mg/m³(100 ppm);STEL:1050 mg/m³(300 ppm) | |
| dimethyl ether | 115-10-6 | UK HSE | TWA:766 mg/m³(400 ppm);STEL:958 mg/m³(500 ppm) | |
| heptane | 142-82-5 | UK HSE | TWA:2085 mg/m3(500 ppm) | |
| ethanol | 64-17-5 | UK HSE | TWA:1920 mg/m³(1000 ppm) | |
| propane | 74-98-6 | UK HSE | Limit value not established: | asphyxiant |

UK HSE : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

**Biological limit values**

| Ingredient | Identifier(s) | Agency | Determinant | Biological Specimen | Sampling Time | Value | Additional comments |
|---|---|---|---|---|---|---|---|
| 4-methylpentan-2-one | 108-10-1 | UK EH40 BMGVs | 4-Methyl pentan-2-one | Urine | EOS | 20 umol/L | |

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)
EOS: End of shift.

**8.2. Exposure controls**

**8.2.1. Engineering controls**
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Full face shield.
Indirect vented goggles.

*Applicable Norms/Standards*
Use eye/face protection conforming to EN 16321

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

| Material | Thickness (mm) | Breakthrough Time |
|---|---|---|
| Polymer laminate | No data available | No data available |

*Applicable Norms/Standards*
Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

*Applicable Norms/Standards*
Use a respirator conforming to EN 140 or EN 136
Use a respirator conforming to EN 140 or EN 136: filter type A

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid. Aerosol |
| **Specific Physical Form:** | Aerosol |
| **Colour** | Red |
| **Odor** | Mild Ethanolic |
| **Odour threshold** | *No data available.* |
| **Melting point/freezing point** | *No data available.* |
| **Boiling point/boiling range** | *No data available.* |
| **Flammability** | Flammable Aerosol: Category 1. |
| **Flammable Limits(LEL)** | *No data available.* |
| **Flammable Limits(UEL)** | *No data available.* |
| **Flash point** | *No data available.* |
| **Autoignition temperature** | *No data available.* |
| **Decomposition temperature** | *No data available.* |
| **pH** | *substance/mixture is non-soluble (in water)* |
| **Kinematic Viscosity** | 787 mm²/sec |
| **Water solubility** | *No data available.* |
| **Solubility- non-water** | *No data available.* |
| **Partition coefficient: n-octanol/water** | *No data available.* |
| **Vapour pressure** | *No data available.* |
| **Density** | 0.8 kg/l |
| **Relative density** | *No data available.* |
| **Relative Vapour Density** | 2.97 [*Ref Std:*AIR=1] |
| **Particle Characteristics** | *Not applicable.* |

**9.2. Other information**

**9.2.2 Other safety characteristics**

| | |
|---|---|
| **EU Volatile Organic Compounds** | *No data available.* |
| **Evaporation rate** | *No data available.* |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

**10.2 Chemical stability**
Stable.

**10.3 Possibility of hazardous reactions**
Hazardous polymerisation will not occur.

**10.4 Conditions to avoid**
Heat.

**10.5 Incompatible materials**
Combustibles.

**10.6 Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

**The information below may not agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.**

**11.1. Information on hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.**

**Signs and Symptoms of Exposure**

**Based on test data and/or information on the components, this material may produce the following health effects:**

**Inhalation**
Simple asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

**Skin contact**
Mild Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye contact**
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion**
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Additional information:**

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human

consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Inhalation-Vapour(4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| hexane (containing < 5 % n-hexane (203-777-6)) | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| hexane (containing < 5 % n-hexane (203-777-6)) | Inhalation-Vapour | | LC50 estimated to be > 50 mg/l |
| hexane (containing < 5 % n-hexane (203-777-6)) | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Non-volatile Components 2 | Dermal | Rat | LD50 > 2,000 mg/kg |
| Non-volatile Components 2 | Ingestion | Rat | LD50 > 2,000 mg/kg |
| isobutane | Inhalation-Gas (4 hours) | Rat | LC50 276,000 ppm |
| propane | Inhalation-Gas (4 hours) | Rat | LC50 > 200,000 ppm |
| cyclohexane | Dermal | Rat | LD50 > 2,000 mg/kg |
| cyclohexane | Inhalation-Vapour (4 hours) | Rat | LC50 > 32.9 mg/l |
| cyclohexane | Ingestion | Rat | LD50 6,200 mg/kg |
| dimethyl ether | Inhalation-Gas (4 hours) | Rat | LC50 164,000 ppm |
| Non-volatile Components 1 | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Non-volatile Components 1 | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Terpene Phenolic | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Terpene Phenolic | Ingestion | Rat | LD50 > 7,000 mg/kg |
| pentane | Dermal | Rabbit | LD50 3,000 mg/kg |
| pentane | Inhalation-Vapour (4 hours) | Rat | LC50 > 18 mg/l |
| pentane | Ingestion | Rat | LD50 > 2,000 mg/kg |
| ethanol | Dermal | Rabbit | LD50 > 15,800 mg/kg |
| ethanol | Inhalation-Vapour (4 hours) | Rat | LC50 124.7 mg/l |
| ethanol | Ingestion | Rat | LD50 17,800 mg/kg |
| n-hexane | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| n-hexane | Inhalation-Vapour (4 hours) | Rat | LC50 170 mg/l |
| n-hexane | Ingestion | Rat | LD50 > 28,700 mg/kg |
| heptane | Dermal | similar compounds | LD50 > 2,000 mg/kg |
| heptane | Inhalation-Vapour (4 hours) | similar compounds | LC50 > 33.5 mg/l |

| | | | |
|---|---|---|---|
| heptane | Ingestion | similar compounds | LD50 > 5,000 mg/kg |
| toluene | Dermal | Rat | LD50 12,000 mg/kg |
| toluene | Inhalation-Vapour (4 hours) | Rat | LC50 30 mg/l |
| toluene | Ingestion | Rat | LD50 5,550 mg/kg |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Dermal | Professional judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Ingestion | Rat | LD50 3,125 mg/kg |
| 4-methylpentan-2-one | Dermal | Rabbit | LD50 > 16,000 mg/kg |
| 4-methylpentan-2-one | Inhalation-Vapour (4 hours) | Rat | LC50 11 mg/l |
| 4-methylpentan-2-one | Ingestion | Rat | LD50 3,038 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | Professional judgement | Mild irritant |
| Non-volatile Components 2 | Rabbit | No significant irritation |
| isobutane | Professional judgement | No significant irritation |
| propane | Rabbit | Minimal irritation |
| cyclohexane | Rabbit | Mild irritant |
| Non-volatile Components 1 | similar compounds | No significant irritation |
| pentane | Rabbit | Minimal irritation |
| ethanol | Rabbit | No significant irritation |
| n-hexane | Human and animal | Mild irritant |
| heptane | Professional judgement | Mild irritant |
| toluene | Rabbit | Irritant |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Rabbit | Minimal irritation |
| 4-methylpentan-2-one | Rabbit | Mild irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | Professional judgement | Moderate irritant |
| Non-volatile Components 2 | Rabbit | Mild irritant |
| isobutane | Professional judgement | No significant irritation |
| propane | Rabbit | Mild irritant |

| | | |
|---|---|---|
| cyclohexane | Rabbit | Mild irritant |
| pentane | Rabbit | Mild irritant |
| ethanol | Rabbit | Severe irritant |
| n-hexane | Rabbit | Mild irritant |
| heptane | similar compounds | Mild irritant |
| toluene | Rabbit | Moderate irritant |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Rabbit | Mild irritant |
| 4-methylpentan-2-one | Rabbit | Mild irritant |

**Skin Sensitisation**

| Name | Species | Value |
|---|---|---|
| Non-volatile Components 2 | Human and animal | Not classified |
| Terpene Phenolic | Human | Some positive data exist, but the data are not sufficient for classification |
| pentane | Guinea pig | Not classified |
| ethanol | Human | Not classified |
| n-hexane | Human | Not classified |
| heptane | similar compounds | Not classified |
| toluene | Guinea pig | Not classified |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Guinea pig | Sensitising |
| 4-methylpentan-2-one | Guinea pig | Not classified |

**Respiratory Sensitisation**

For the component/components, either no data is currently available or the data is not sufficient for classification.

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| isobutane | In Vitro | Not mutagenic |
| propane | In Vitro | Not mutagenic |
| cyclohexane | In Vitro | Not mutagenic |
| cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| dimethyl ether | In Vitro | Not mutagenic |
| dimethyl ether | In vivo | Not mutagenic |
| pentane | In vivo | Not mutagenic |
| pentane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| ethanol | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| ethanol | In vivo | Some positive data exist, but the data are not sufficient for classification |
| n-hexane | In Vitro | Not mutagenic |
| n-hexane | In vivo | Not mutagenic |
| heptane | In Vitro | Not mutagenic |
| toluene | In Vitro | Not mutagenic |
| toluene | In vivo | Not mutagenic |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | In vivo | Not mutagenic |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 4-methylpentan-2-one | In Vitro | Not mutagenic |

## Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| dimethyl ether | Inhalation | Rat | Not carcinogenic |
| ethanol | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| n-hexane | Dermal | Mouse | Not carcinogenic |
| n-hexane | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| toluene | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| toluene | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| toluene | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| 4-methylpentan-2-one | Inhalation | Multiple animal species | Carcinogenic. |

## Reproductive Toxicity

## Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|
| cyclohexane | Inhalation | Not classified for female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| cyclohexane | Inhalation | Not classified for male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| cyclohexane | Inhalation | Not classified for development | Rat | NOAEL 6.9 mg/l | 2 generation |
| dimethyl ether | Inhalation | Not classified for development | Rat | NOAEL 40,000 ppm | during organogenesis |
| pentane | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | during organogenesis |
| pentane | Inhalation | Not classified for development | Rat | NOAEL 30 mg/l | during organogenesis |
| ethanol | Inhalation | Not classified for development | Rat | NOAEL 38 mg/l | during gestation |
| ethanol | Ingestion | Not classified for development | Rat | NOAEL 5,200 mg/kg/day | premating & during gestation |
| n-hexane | Ingestion | Not classified for development | Mouse | NOAEL 2,200 mg/kg/day | during organogenesis |
| n-hexane | Inhalation | Not classified for development | Rat | NOAEL 0.7 mg/l | during gestation |
| n-hexane | Ingestion | Toxic to male reproduction | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| n-hexane | Inhalation | Toxic to male reproduction | Rat | LOAEL 3.52 mg/l | 28 days |
| toluene | Inhalation | Not classified for female reproduction | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | Not classified for male reproduction | Rat | NOAEL 2.3 mg/l | 1 generation |
| toluene | Ingestion | Toxic to development | Rat | LOAEL 520 mg/kg/day | during gestation |
| toluene | Inhalation | Toxic to development | Human | NOAEL Not available | poisoning and/or abuse |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,493 mg/kg/day | 29 days |
| Reaction mass of Bis(1,2,2,6,6- | Ingestion | Not classified for development | Rat | NOAEL 209 | premating |

| | | | | | |
|---|---|---|---|---|---|
| pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | | | | mg/kg/day | into lactation |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Ingestion | Toxic to female reproduction | Rat | NOAEL 804 mg/kg/day | premating into lactation |
| 4-methylpentan-2-one | Inhalation | Not classified for female reproduction | Multiple animal species | NOAEL 8.2 mg/l | 2 generation |
| 4-methylpentan-2-one | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| 4-methylpentan-2-one | Inhalation | Not classified for male reproduction | Multiple animal species | NOAEL 8.2 mg/l | 2 generation |
| 4-methylpentan-2-one | Inhalation | Not classified for development | Mouse | NOAEL 12.3 mg/l | during organogenesis |

## Target Organ(s)

## Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| hexane (containing < 5 % n-hexane (203-777-6)) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| hexane (containing < 5 % n-hexane (203-777-6)) | Inhalation | cardiac sensitisation | Not classified | Dog | NOAEL Not available | |
| hexane (containing < 5 % n-hexane (203-777-6)) | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| isobutane | Inhalation | cardiac sensitisation | Causes damage to organs | Multiple animal species | NOAEL Not available | |
| isobutane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| isobutane | Inhalation | respiratory irritation | Not classified | Mouse | NOAEL Not available | |
| propane | Inhalation | cardiac sensitisation | Causes damage to organs | Human | NOAEL Not available | |
| propane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| propane | Inhalation | respiratory irritation | Not classified | Human | NOAEL Not available | |
| cyclohexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| cyclohexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| cyclohexane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| dimethyl ether | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Rat | LOAEL 10,000 ppm | 30 minutes |
| dimethyl ether | Inhalation | cardiac sensitisation | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 100,000 ppm | 5 minutes |
| pentane | Inhalation | central nervous | May cause drowsiness or | Multiple | NOAEL Not | not available |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | system depression | dizziness | animal species | available | |
| pentane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | NOAEL Not available | not available |
| pentane | Inhalation | cardiac sensitisation | Not classified | Dog | NOAEL Not available | not available |
| pentane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | not available |
| ethanol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL 9.4 mg/l | not available |
| ethanol | Inhalation | central nervous system depression | Not classified | Human and animal | NOAEL not available | |
| ethanol | Ingestion | central nervous system depression | Not classified | Multiple animal species | NOAEL not available | |
| ethanol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg | |
| n-hexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| n-hexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL Not available | 8 hours |
| n-hexane | Inhalation | respiratory system | Not classified | Rat | NOAEL 24.6 mg/l | 8 hours |
| heptane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| heptane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| heptane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| toluene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| toluene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| toluene | Inhalation | immune system | Not classified | Mouse | NOAEL 0.004 mg/l | 3 hours |
| toluene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| 4-methylpentan-2-one | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | LOAEL 0.1 mg/l | 2 hours |
| 4-methylpentan-2-one | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| 4-methylpentan-2-one | Inhalation | vascular system | Not classified | Dog | NOAEL Not available | not available |
| 4-methylpentan-2-one | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Rat | LOAEL 900 mg/kg | not applicable |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | Inhalation | peripheral nervous system | Not classified | Rat | NOAEL 5.3 mg/l | 14 weeks |
| hexane (containing < 5 % n-hexane (203-777-6)) | Ingestion | peripheral nervous system | Not classified | Rat | NOAEL Not available | 8 weeks |
| hexane (containing < 5 % n-hexane (203-777-6)) | Ingestion | kidney and/or bladder | Not classified | Rat | LOAEL 2,000 mg/kg/day | 28 days |
| isobutane | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 4,500 ppm | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| cyclohexane | Inhalation | liver | Not classified | Rat | NOAEL 24 mg/l | 90 days |
| cyclohexane | Inhalation | auditory system | Not classified | Rat | NOAEL 1.7 mg/l | 90 days |
| cyclohexane | Inhalation | kidney and/or bladder | Not classified | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| cyclohexane | Inhalation | hematopoietic system | Not classified | Mouse | NOAEL 24 mg/l | 14 weeks |
| cyclohexane | Inhalation | peripheral nervous system | Not classified | Rat | NOAEL 8.6 mg/l | 30 weeks |
| dimethyl ether | Inhalation | hematopoietic system | Not classified | Rat | NOAEL 25,000 ppm | 2 years |
| dimethyl ether | Inhalation | liver | Not classified | Rat | NOAEL 20,000 ppm | 30 weeks |
| pentane | Inhalation | peripheral nervous system | Not classified | Human | NOAEL Not available | occupational exposure |
| pentane | Inhalation | heart \| skin \| endocrine system \| gastrointestinal tract \| bone, teeth, nails, and/or hair \| hematopoietic system \| liver \| immune system \| muscles \| nervous system \| eyes \| kidney and/or bladder \| respiratory system | Not classified | Rat | NOAEL 20 mg/l | 13 weeks |
| pentane | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 2,000 mg/kg/day | 28 days |
| ethanol | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 124 mg/l | 365 days |
| ethanol | Inhalation | hematopoietic system \| immune system | Not classified | Rat | NOAEL 25 mg/l | 14 days |
| ethanol | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 8,000 mg/kg/day | 4 months |
| ethanol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg/day | 7 days |
| n-hexane | Inhalation | peripheral nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| n-hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Mouse | LOAEL 1.76 mg/l | 13 weeks |
| n-hexane | Inhalation | liver | Not classified | Rat | NOAEL Not available | 6 months |
| n-hexane | Inhalation | kidney and/or bladder | Not classified | Rat | LOAEL 1.76 mg/l | 6 months |
| n-hexane | Inhalation | hematopoietic system | Not classified | Mouse | NOAEL 35.2 mg/l | 13 weeks |
| n-hexane | Inhalation | auditory system \| immune system \| eyes | Not classified | Human | NOAEL Not available | occupational exposure |
| n-hexane | Inhalation | heart \| skin \| endocrine system | Not classified | Rat | NOAEL 1.76 mg/l | 6 months |
| n-hexane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| n-hexane | Ingestion | endocrine system \| hematopoietic system \| liver \| immune system \| kidney and/or | Not classified | Rat | NOAEL Not available | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | bladder | | | | |
| heptane | Inhalation | nervous system | Not classified | Rat | NOAEL 6.15 mg/l | 30 weeks |
| heptane | Inhalation | peripheral nervous system | Not classified | Rat | NOAEL 12.5 mg/l | 16 weeks |
| heptane | Inhalation | hematopoietic system \| kidney and/or bladder | Not classified | Rat | NOAEL 12.2 mg/l | 26 weeks |
| toluene | Inhalation | auditory system \| nervous system \| eyes \| olfactory system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | poisoning and/or abuse |
| toluene | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2.3 mg/l | 15 months |
| toluene | Inhalation | heart \| liver \| kidney and/or bladder | Not classified | Rat | NOAEL 11.3 mg/l | 15 weeks |
| toluene | Inhalation | endocrine system | Not classified | Rat | NOAEL 1.1 mg/l | 4 weeks |
| toluene | Inhalation | immune system | Not classified | Mouse | NOAEL Not available | 20 days |
| toluene | Inhalation | bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 1.1 mg/l | 8 weeks |
| toluene | Inhalation | hematopoietic system \| vascular system | Not classified | Human | NOAEL Not available | occupational exposure |
| toluene | Inhalation | gastrointestinal tract | Not classified | Multiple animal species | NOAEL 11.3 mg/l | 15 weeks |
| toluene | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 625 mg/kg/day | 13 weeks |
| toluene | Ingestion | heart | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| toluene | Ingestion | liver \| kidney and/or bladder | Not classified | Multiple animal species | NOAEL 2,500 mg/kg/day | 13 weeks |
| toluene | Ingestion | hematopoietic system | Not classified | Mouse | NOAEL 600 mg/kg/day | 14 days |
| toluene | Ingestion | endocrine system | Not classified | Mouse | NOAEL 105 mg/kg/day | 28 days |
| toluene | Ingestion | immune system | Not classified | Mouse | NOAEL 105 mg/kg/day | 4 weeks |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Ingestion | eyes | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 300 mg/kg/day | 28 days |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | Ingestion | gastrointestinal tract \| liver \| immune system \| heart \| endocrine system \| hematopoietic system \| nervous system \| kidney and/or bladder | Not classified | Rat | NOAEL 1,493 mg/kg/day | 29 days |
| 4-methylpentan-2-one | Inhalation | liver | Not classified | Rat | NOAEL 0.41 mg/l | 13 weeks |
| 4-methylpentan-2-one | Inhalation | heart | Not classified | Multiple animal species | NOAEL 0.8 mg/l | 2 weeks |
| 4-methylpentan-2-one | Inhalation | kidney and/or bladder | Not classified | Multiple animal species | NOAEL 0.4 mg/l | 90 days |
| 4-methylpentan-2-one | Inhalation | respiratory system | Not classified | Multiple animal | NOAEL 4.1 mg/l | 14 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | species | | |
| 4-methylpentan-2-one | Inhalation | endocrine system \| hematopoietic system | Not classified | Multiple animal species | NOAEL 0.41 mg/l | 90 days |
| 4-methylpentan-2-one | Inhalation | nervous system | Not classified | Multiple animal species | NOAEL 0.41 mg/l | 13 weeks |
| 4-methylpentan-2-one | Ingestion | endocrine system \| hematopoietic system \| liver \| kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| 4-methylpentan-2-one | Ingestion | heart \| immune system \| muscles \| nervous system \| respiratory system | Not classified | Rat | NOAEL 1,040 mg/kg/day | 120 days |

**Aspiration Hazard**

| Name | Value |
|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | Aspiration hazard |
| cyclohexane | Aspiration hazard |
| pentane | Aspiration hazard |
| n-hexane | Aspiration hazard |
| heptane | Aspiration hazard |
| toluene | Aspiration hazard |
| 4-methylpentan-2-one | Some positive data exist, but the data are not sufficient for classification |

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

### 11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

## SECTION 12: Ecological information

**The information below may not agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.**

### 12.1. Toxicity

No product test data available.

| Material | Identifier(s) | Organism | Type | Exposure | Test endpoint | Test result |
|---|---|---|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | 107-83-5 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Non-volatile Components 2 | Trade Secret | Green algae | Analogous Compound | 72 hours | No tox obs at lmt of water sol | >100 mg/l |
| Non-volatile Components 2 | Trade Secret | Rainbow trout | Analogous Compound | 96 hours | No tox obs at lmt of water sol | >100 mg/l |
| Non-volatile Components 2 | Trade Secret | Water flea | Analogous Compound | 48 hours | No tox obs at lmt of water sol | >100 mg/l |
| Non-volatile Components 2 | Trade Secret | Green algae | Analogous Compound | 72 hours | No tox obs at lmt of water sol | >100 mg/l |
| cyclohexane | 110-82-7 | Fathead minnow | Experimental | 96 hours | LC50 | 4.53 mg/l |
| cyclohexane | 110-82-7 | Water flea | Experimental | 48 hours | EC50 | 0.9 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| cyclohexane | 110-82-7 | Bacteria | Experimental | 24 hours | IC50 | 97 mg/l |
| dimethyl ether | 115-10-6 | Bacteria | Experimental | N/A | EC10 | >1,600 mg/l |
| dimethyl ether | 115-10-6 | Guppy | Experimental | 96 hours | LC50 | >4,100 mg/l |
| dimethyl ether | 115-10-6 | Water flea | Experimental | 48 hours | EC50 | >4,400 mg/l |
| isobutane | 75-28-5 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| propane | 74-98-6 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Non-volatile Components 1 | Trade Secret | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Terpene Phenolic | Trade Secret | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| ethanol | 64-17-5 | Fathead minnow | Experimental | 96 hours | LC50 | 14,200 mg/l |
| ethanol | 64-17-5 | Fish | Experimental | 96 hours | LC50 | 11,000 mg/l |
| ethanol | 64-17-5 | Green algae | Experimental | 72 hours | EC50 | 275 mg/l |
| ethanol | 64-17-5 | Water flea | Experimental | 48 hours | LC50 | 5,012 mg/l |
| ethanol | 64-17-5 | Green algae | Experimental | 72 hours | ErC10 | 11.5 mg/l |
| ethanol | 64-17-5 | Water flea | Experimental | 10 days | NOEC | 9.6 mg/l |
| pentane | 109-66-0 | Green algae | Experimental | 72 hours | EC50 | 10.7 mg/l |
| pentane | 109-66-0 | Rainbow trout | Experimental | 96 hours | LC50 | 4.26 mg/l |
| pentane | 109-66-0 | Water flea | Experimental | 48 hours | EC50 | 2.7 mg/l |
| pentane | 109-66-0 | Green algae | Experimental | 72 hours | NOEC | 2.04 mg/l |
| heptane | 142-82-5 | Water flea | Experimental | 48 hours | EC50 | 1.5 mg/l |
| heptane | 142-82-5 | Water flea | Analogous Compound | 21 days | NOEC | 0.17 mg/l |
| n-hexane | 110-54-3 | Fathead minnow | Experimental | 96 hours | LC50 | 2.5 mg/l |
| n-hexane | 110-54-3 | Water flea | Experimental | 48 hours | LC50 | 3.9 mg/l |
| toluene | 108-88-3 | Coho Salmon | Experimental | 96 hours | LC50 | 5.5 mg/l |
| toluene | 108-88-3 | Grass Shrimp | Experimental | 96 hours | LC50 | 9.5 mg/l |
| toluene | 108-88-3 | Green algae | Experimental | 72 hours | EC50 | 12.5 mg/l |
| toluene | 108-88-3 | Leopard frog | Experimental | 9 days | LC50 | 0.39 mg/l |
| toluene | 108-88-3 | Pink Salmon | Experimental | 96 hours | LC50 | 6.41 mg/l |
| toluene | 108-88-3 | Water flea | Experimental | 48 hours | EC50 | 3.78 mg/l |
| toluene | 108-88-3 | Coho Salmon | Experimental | 40 days | NOEC | 1.39 mg/l |
| toluene | 108-88-3 | Diatom | Experimental | 72 hours | NOEC | 10 mg/l |
| toluene | 108-88-3 | Water flea | Experimental | 7 days | NOEC | 0.74 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| toluene | 108-88-3 | Activated sludge | Experimental | 12 hours | IC50 | 292 mg/l |
| toluene | 108-88-3 | Bacteria | Experimental | 16 hours | NOEC | 29 mg/l |
| toluene | 108-88-3 | Bacteria | Experimental | 24 hours | EC50 | 84 mg/l |
| toluene | 108-88-3 | Redworm | Experimental | 28 days | LC50 | >150 mg per kg of bodyweight |
| toluene | 108-88-3 | Soil microbes | Experimental | 28 days | NOEC | <26 mg/kg (Dry Weight) |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Green algae | Experimental | 72 hours | ErC50 | 1.68 mg/l |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Zebra Fish | Experimental | 96 hours | LC50 | 0.9 mg/l |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Green algae | Experimental | 72 hours | ErC10 | 0.34 mg/l |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Water flea | Experimental | 21 days | NOEC | 1 mg/l |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Activated sludge | Experimental | 3 hours | IC50 | >=100 mg/l |
| 4-methylpentan-2-one | 108-10-1 | Green algae | Experimental | 96 hours | EC50 | 400 mg/l |
| 4-methylpentan-2-one | 108-10-1 | Water flea | Experimental | 48 hours | EC50 | >200 mg/l |
| 4-methylpentan-2-one | 108-10-1 | Zebra Fish | Experimental | 96 hours | LC50 | >179 mg/l |
| 4-methylpentan-2-one | 108-10-1 | Fathead minnow | Experimental | 32 days | NOEC | 56.2 mg/l |
| 4-methylpentan-2-one | 108-10-1 | Water flea | Experimental | 21 days | NOEC | 78 mg/l |
| 4-methylpentan-2-one | 108-10-1 | Activated sludge | Experimental | 30 minutes | EC50 | >1,000 |

### 12.2. Persistence and degradability

| Material | Identifier(s) | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| hexane (containing | 107-83-5 | Experimental | 28 days | BOD | 93 %BOD/ThOD | OECD 301C - MITI test (I) |

| | | | | | | |
|---|---|---|---|---|---|---|
| < 5 % n-hexane (203-777-6)) | | Biodegradation | | | | |
| hexane (containing < 5 % n-hexane (203-777-6)) | 107-83-5 | Experimental Photolysis | | Photolytic half-life (in air) | 6.1 days (t 1/2) | |
| Non-volatile Components 2 | Trade Secret | Experimental Biodegradation | 28 days | CO2 evolution | 47.3 %CO2 evolution/THCO2 evolution | OECD 301B - Modified sturm or CO2 |
| cyclohexane | 110-82-7 | Experimental Biodegradation | 28 days | BOD | 77 %BOD/ThOD | OECD 301F - Manometric respirometry |
| cyclohexane | 110-82-7 | Experimental Photolysis | | Photolytic half-life (in air) | 4.3 days (t 1/2) | |
| dimethyl ether | 115-10-6 | Experimental Biodegradation | 28 days | BOD | 5 %BOD/ThOD | OECD 301D - Closed bottle test |
| dimethyl ether | 115-10-6 | Experimental Photolysis | | Photolytic half-life (in air) | 12.4 days (t 1/2) | |
| isobutane | 75-28-5 | Experimental Photolysis | | Photolytic half-life (in air) | 13.4 days (t 1/2) | |
| propane | 74-98-6 | Experimental Photolysis | | Photolytic half-life (in air) | 27.5 days (t 1/2) | |
| Non-volatile Components 1 | Trade Secret | Data not availbl-insufficient | N/A | N/A | N/A | N/A |
| Terpene Phenolic | Trade Secret | Estimated Biodegradation | 28 days | BOD | 27.5 %BOD/ThOD | |
| ethanol | 64-17-5 | Experimental Biodegradation | 14 days | BOD | 89 %BOD/ThOD | OECD 301C - MITI test (I) |
| pentane | 109-66-0 | Experimental Biodegradation | 28 days | BOD | 87 %BOD/ThOD | OECD 301F - Manometric respirometry |
| pentane | 109-66-0 | Experimental Photolysis | | Photolytic half-life (in air) | 8.07 days (t 1/2) | |
| heptane | 142-82-5 | Experimental Biodegradation | 28 days | BOD | 101 %BOD/ThOD | OECD 301C - MITI test (I) |
| heptane | 142-82-5 | Experimental Photolysis | | Photolytic half-life (in air) | 4.24 days (t 1/2) | |
| n-hexane | 110-54-3 | Experimental Bioconcentration | 28 days | BOD | 100 %BOD/ThOD | OECD 301C - MITI test (I) |
| n-hexane | 110-54-3 | Experimental Photolysis | | Photolytic half-life (in air) | 5.4 days (t 1/2) | |
| toluene | 108-88-3 | Experimental Biodegradation | 20 days | BOD | 80 %BOD/ThOD | APHA Std Meth Water/Wastewater |
| toluene | 108-88-3 | Experimental Photolysis | | Photolytic half-life (in air) | 5.2 days (t 1/2) | |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Experimental Biodegradation | 28 days | Dissolv. Organic Carbon Deplet | 38 %removal of DOC | OECD 301E - Modif. OECD Screen |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Experimental Hydrolysis | | Hydrolytic half-life (pH 7) | 68 days (t 1/2) | OECD 111 Hydrolysis func of pH |
| 4-methylpentan-2-one | 108-10-1 | Experimental Biodegradation | 28 days | BOD | 83 %BOD/ThOD | OECD 301F - Manometric respirometry |
| 4-methylpentan-2-one | 108-10-1 | Experimental Photolysis | | Photolytic half-life (in air) | 2.3 days (t 1/2) | |

### 12.3 : Bioaccumulative potential

| Material | Identifier(s) | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | 107-83-5 | Modeled Bioconcentration | | Bioaccumulation factor | 47 | Catalogic™ |
| hexane (containing < 5 % n-hexane (203-777-6)) | 107-83-5 | Modeled Bioconcentration | | Log Kow | 3.21 | Episuite™ |
| Non-volatile Components 2 | Trade Secret | Analogous Compound BCF - Fish | 20 days | Bioaccumulation factor | ≤129 | |
| Non-volatile Components 2 | Trade Secret | Experimental Bioconcentration | | Log Kow | 5.8 | OECD 117 log Kow HPLC method |
| cyclohexane | 110-82-7 | Experimental BCF - Fish | 56 days | Bioaccumulation factor | 129 | OECD305-Bioconcentration |
| cyclohexane | 110-82-7 | Experimental Bioconcentration | | Log Kow | 3.44 | |
| dimethyl ether | 115-10-6 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| isobutane | 75-28-5 | Experimental Bioconcentration | | Log Kow | 2.76 | |
| propane | 74-98-6 | Experimental Bioconcentration | | Log Kow | 2.36 | |
| Non-volatile Components 1 | Trade Secret | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Terpene Phenolic | Trade Secret | Estimated Bioconcentration | | Bioaccumulation factor | 18.9 | |
| ethanol | 64-17-5 | Experimental Bioconcentration | | Log Kow | -0.35 | |
| pentane | 109-66-0 | Estimated Bioconcentration | | Bioaccumulation factor | 26 | |
| heptane | 142-82-5 | Modeled Bioconcentration | | Bioaccumulation factor | 105 | Catalogic™ |
| heptane | 142-82-5 | Experimental Bioconcentration | | Log Kow | 4.66 | |
| n-hexane | 110-54-3 | Modeled Bioconcentration | | Bioaccumulation factor | 50 | Catalogic™ |
| toluene | 108-88-3 | Experimental BCF - Other | 72 hours | Bioaccumulation factor | 90 | |
| toluene | 108-88-3 | Experimental Bioconcentration | | Log Kow | 2.73 | |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Analogous Compound BCF - Fish | 56 days | Bioaccumulation factor | <31.4 | |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Experimental Bioconcentration | | Log Kow | 2.77 | OECD 107 log Kow shke flsk mtd |
| 4-methylpentan-2-one | 108-10-1 | Experimental Bioconcentration | | Log Kow | 1.9 | OECD 117 log Kow HPLC method |

### 12.4. Mobility in soil

| Material | Identifier(s) | Test type | Study Type | Test result | Protocol |
|---|---|---|---|---|---|
| hexane (containing < 5 % n-hexane (203-777-6)) | 107-83-5 | Modeled Mobility in Soil | Koc | 111 l/kg | Episuite™ |
| cyclohexane | 110-82-7 | Modeled Mobility | Koc | 970 l/kg | Episuite™ |

| | | | | | |
|---|---|---|---|---|---|
| | | in Soil | | | |
| dimethyl ether | 115-10-6 | Modeled Mobility in Soil | Koc | 3 l/kg | Episuite™ |
| pentane | 109-66-0 | Estimated Mobility in Soil | Koc | 72 l/kg | Episuite™ |
| heptane | 142-82-5 | Modeled Mobility in Soil | Koc | 240 l/kg | Episuite™ |
| toluene | 108-88-3 | Experimental Mobility in Soil | Koc | 37-160 l/kg | |
| Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 915-687-0 | Modeled Mobility in Soil | Koc | 7 l/kg | Episuite™ |
| 4-methylpentan-2-one | 108-10-1 | Modeled Mobility in Soil | Koc | 150 l/kg | Episuite™ |

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

This material does not contain any substances that are assessed to be a PBT or vPvB

**12.6. Other adverse effects**

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

**EU waste code (product as sold)**

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

## SECTION 14: Transportation information

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|---|---|---|---|
| **14.1 - UN Number or ID number** | UN1950 | UN1950 | UN1950 |

| | | | |
|---|---|---|---|
| **14.2 UN proper shipping name** | AEROSOLS | AEROSOLS, FLAMMABLE | AEROSOLS |
| **14.3 Transport hazard class(es)** | 2.1 | 2.1 | 2.1 |
| **14.4 Packing group** | No data available. | No data available. | No data available. |
| **14.5 Environmental hazards** | Not Environmentally Hazardous | Not applicable. | Not a Marine Pollutant |
| **14.6 Special precautions for user** | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. |
| **14.7 Marine Transport in bulk according to IMO instruments** | No data available. | No data available. | No data available. |
| **Control Temperature** | No data available. | No data available. | No data available. |
| **Emergency Temperature** | No data available. | No data available. | No data available. |
| **ADR Classification Code** | 5F | Not applicable. | Not applicable. |
| **IMDG Segregation Code** | Not applicable. | Not applicable. | NONE |

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

## SECTION 15: Regulatory information

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

**Carcinogenicity**

| Ingredient | Identifier(s) | Classification | Regulation |
|---|---|---|---|
| 4-methylpentan-2-one | 108-10-1 | Carc. 2 | The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain, UK Mandatory Classification and Labelling list |
| 4-methylpentan-2-one | 108-10-1 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| toluene | 108-88-3 | Gr. 3: Not classifiable | International Agency for Research on Cancer |

**Restrictions on the manufacture, placing on the market and use:**
The following substance(s) contained in this product is/are subject to Annex XVII of regulation (EC) 1907/2006, as amended for GB, with regard to restrictions on the manufacture, placing on the market and use when present in certain dangerous conditions. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

| Ingredient | Identifier(s) |
|---|---|
| cyclohexane | 110-82-7 |
| toluene | 108-88-3 |

Restriction status: listed in UK REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 as amended for Great Britain for Conditions of Restriction

**Global inventory status**
Contact 3M for more information.

**COMAH Regulation, SI 2015/483**
Seveso hazard categories, Annex 1, Part 1

| Hazard Categories | Qualifying quantity (tonnes) for the application of | |
|---|---|---|
| | Lower-tier requirements | Upper-tier requirements |
| E2 Hazardous to the Aquatic environment | 200 | 500 |
| P3a FLAMMABLE AEROSOLS | 150 (net) | 500 (net) |

Seveso named dangerous substances, Annex 1, Part 2
None

**Regulation (EU) No 649/2012, as amended for GB**
No chemicals listed

**15.2. Chemical Safety Assessment**
A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

## SECTION 16: Other information

**List of relevant H statements**

| | |
|---|---|
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| H220 | Extremely flammable gas. |
| H222 | Extremely flammable aerosol. |
| H225 | Highly flammable liquid and vapour. |

| | |
|---|---|
| H229 | Pressurised container: may burst if heated. |
| H280 | Contains gas under pressure; may explode if heated. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H361d | Suspected of damaging the unborn child. |
| H361f | Suspected of damaging fertility. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| 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. |
| H412 | Harmful to aquatic life with long lasting effects. |

**List of Relevant Notas**

| | |
|---|---|
| Nota C | Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers. |
| Nota U | When put on the market gases have to be classified as ‘Gases under pressure’, in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned: Press. Gas (Comp.) Press. Gas (Liq.) Press. Gas (Ref. Liq.) Press. Gas (Diss.) Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Nota 2). |

**Revision information:**
Section 14 - Not Hazardous for Transportation information was modified.
EU Section 14 - Table Data information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

**3M SDSs for Great Britain are available at www.3M.com/uk**
For Northern Ireland documents, please contact your 3M representative to obtain a copy.