



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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|------------------------|------------|-------------------------|------------|
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SECTION 1: Identification

1.1. Product identifier

3M™ Polystyrene Foam Insulation Spray Adhesive 78

Product Identification Numbers

62-4951-4950-2 62-4951-4955-1 62-4951-4975-9

1.2. Recommended use and restrictions on use

Recommended use

aerosol adhesive, aerosol insulation adhesive

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Aerosol: Category 1.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements

SIGNAL WORD

DANGER!

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms**HAZARD STATEMENTS**

| | |
|------|--|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurized container: may burst if heated. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H360 | May damage fertility or the unborn child. |
| H336 | May cause drowsiness or dizziness. |
| H371 | May cause damage to organs: cardiovascular system. |

PRECAUTIONARY STATEMENTS**Prevention:**

| | |
|-------|---|
| P201 | Obtain special instructions before use. |
| 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. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280F | Wear respiratory protection, if needed (see SDS Section 8). |

Response:

| | |
|--------------------|--|
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical attention. |

Storage:

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

2.3. Other hazards

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. Aspiration classification does not apply as this product is sold in sealed, self-pressurized containers with nozzles designed to prevent formation of a stream during usage. May displace oxygen and cause rapid suffocation.

SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | CAS Nbr | % by Wt |
|--|--------------|-----------|
| Cyclohexane | 110-82-7 | 10 - 30 |
| Dimethyl ether | 115-10-6 | 10 - 30 |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2- methylenebicyclo[3.1.1]heptane | 31393-98-3 | 10 - < 25 |
| Non-volatile components | Trade Secret | 5 - 25 |
| 2-Methylpentane | 107-83-5 | 5 - 13 |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | 5 - 13 |
| Acetone | 67-64-1 | 1 - 5 |

| | | |
|--------------------|------------|---------|
| 1,1-Difluoroethane | 75-37-6 | 1 - < 5 |
| Petroleum naphtha | 64742-48-9 | 1 - < 5 |
| Pentane | 109-66-0 | < 1.2 |
| Toluene | 108-88-3 | < 1 |
| n-hexane | 110-54-3 | < 0.12 |

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

Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

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. Suitable 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

Aldehydes.

Hydrocarbons.

Formaldehyde

Methane,

Carbon monoxide.

Carbon dioxide.

Hydrogen Fluoride

Ketones.

Toxic vapour, gas, particulate.

Condition

During combustion.

During combustion.

During combustion.

During combustion.

During combustion.

During combustion.

During combustion.

During combustion.

During combustion.

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

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. Warning! A motor could be an ignition source and could cause flammable gases or vapors 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. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) 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 50C/122F. Store away from heat. Store away from acids. Store away from oxidising agents.

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 | CAS Nbr | Agency | Limit type | Additional comments |
|--------------------------------------|----------------|----------------|--|---|
| HEXANE (ISOMERS OTHER THAN N-HEXANE) | 107-83-5 | ACGIH | TWA:200 ppm | A3: Confirmed animal carcin. |
| HEXANE (ISOMERS OTHER THAN N-HEXANE) | 107-83-5 | Singapore PELs | TWA(8 hours):1760 mg/m3(500 ppm);STEL(15 minutes):3500 mg/m3(1000 ppm) | |
| Toluene | 108-88-3 | ACGIH | TWA:20 ppm | A4: Not class. as human carcin, Ototoxicant |
| Toluene | 108-88-3 | Singapore PELs | TWA(8 hours):188 mg/m3(50 | |

| | | | | |
|----------------------|------------|----------------|--|--------------------------------|
| | | | ppm) | |
| Pentane | 109-66-0 | Singapore PELs | TWA(8 hours):1770 mg/m3(600 ppm);STEL(15 minutes):2210 mg/m3(750 ppm) | |
| Pentane, all isomers | 109-66-0 | ACGIH | TWA:1000 ppm | |
| n-hexane | 110-54-3 | ACGIH | TWA:50 ppm | Danger of cutaneous absorption |
| n-hexane | 110-54-3 | Singapore PELs | TWA(8 hours):176 mg/m3(50 ppm) | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Cyclohexane | 110-82-7 | Singapore PELs | TWA(8 hours):1030 mg/m3(300 ppm) | |
| Dimethyl ether | 115-10-6 | AIHA | TWA:1880 mg/m3(1000 ppm) | |
| Naphtha | 64742-49-0 | Singapore PELs | TWA(8 hours):1370 mg/m3(300 ppm) | |
| Acetone | 67-64-1 | ACGIH | TWA:250 ppm;STEL:500 ppm | A4: Not class. as human carcin |
| Acetone | 67-64-1 | Singapore PELs | TWA(8 hours):1780 mg/m3(750 ppm);STEL(15 minutes):2380 mg/m3(1000 ppm) | |
| 1,1-Difluoroethane | 75-37-6 | AIHA | TWA:2700 mg/m3(1000 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

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:

Safety glasses with side shields.

Indirect vented goggles.

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: Polymer laminate

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

Organic vapor cartridges may have short service life.

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--|
| Physical state | Liquid. |
| Specific Physical Form: | Aerosol |
| Color | Colorless |
| Odor | Fruity Odor, Mild Solvent |
| Odour threshold | <i>No data available.</i> |
| pH | <i>No data available.</i> |
| Melting point/Freezing point | <i>No data available.</i> |
| Boiling point/Initial boiling point/Boiling range | [<i>Details:Compressed gas</i>] <i>Not applicable.</i> |
| Flash point | -45.6 °C [<i>Test Method:Tagliabue closed cup</i>] |
| Evaporation rate | 1.9 [<i>Ref Std:ETHER=1</i>] |
| Flammability | Flammable Aerosol: Category 1. |
| Flammable Limits(LEL) | <i>No data available.</i> |
| Flammable Limits(UEL) | <i>No data available.</i> |
| Vapour pressure | [<i>Details:Compressed gas</i>] <i>Not applicable.</i> |
| Relative Vapor Density | >=2.57 [<i>Ref Std:AIR=1</i>] |
| Density | 0.761 g/ml |
| Relative density | 0.761 [<i>Ref Std:WATER=1</i>] |
| Water solubility | Nil |
| Solubility- non-water | <i>No data available.</i> |
| Partition coefficient: n-octanol/water | <i>No data available.</i> |
| Autoignition temperature | <i>No data available.</i> |
| Decomposition temperature | <i>No data available.</i> |
| Kinematic Viscosity | <i>Not applicable.</i> |
| Volatile organic compounds (VOC) | <=493 g/l [<i>Test Method:calculated SCAQMD rule 443.1</i>] [<i>Details:Material VOC</i>] |
| Volatile organic compounds (VOC) | <=64.8 % [<i>Test Method:calculated per CARB title 2</i>] |

| | |
|---------------------------------|------------------------|
| Particle Characteristics | <i>Not applicable.</i> |
|---------------------------------|------------------------|

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

Strong oxidising agents.

10.6 Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|-------------------------|-------------------------|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

Extreme heat arising from situations such as misuse or equipment failure can generate hydrogen fluoride as a decomposition product.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

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

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

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.

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-Vapor (4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Cyclohexane | Dermal | Rat | LD50 > 2,000 mg/kg |
| Cyclohexane | Inhalation-Vapor (4 hours) | Rat | LC50 > 32.9 mg/l |
| Cyclohexane | Ingestion | Rat | LD50 6,200 mg/kg |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | Ingestion | Rat | LD50 > 2,000 mg/kg |
| 2-Methylpentane | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| 2-Methylpentane | Inhalation-Vapor | | LC50 estimated to be > 50 mg/l |
| 2-Methylpentane | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Dimethyl ether | Inhalation-Gas (4 hours) | Rat | LC50 164,000 ppm |
| Hydrotreated light naphtha (petroleum) | Dermal | Rabbit | LD50 > 3,160 mg/kg |
| Hydrotreated light naphtha (petroleum) | Inhalation-Vapor (4 hours) | Rat | LC50 > 14.7 mg/l |
| Hydrotreated light naphtha (petroleum) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Non-volatile components | Dermal | Not available | LD50 > 2,000 mg/kg |
| Non-volatile components | Ingestion | Not available | LD50 > 2,000 mg/kg |
| Petroleum naphtha | Dermal | similar compounds | LD50 > 2,200 mg/kg |
| Petroleum naphtha | Ingestion | similar compounds | LD50 > 15,000 mg/kg |
| 1,1-Difluoroethane | Inhalation-Gas (4 hours) | Rat | LC50 > 437,000 ppm |
| Acetone | Dermal | Rabbit | LD50 > 15,688 mg/kg |
| Acetone | Inhalation-Vapor (4 hours) | Rat | LC50 76 mg/l |
| Acetone | Ingestion | Rat | LD50 5,800 mg/kg |
| Pentane | Dermal | Rabbit | LD50 3,000 mg/kg |
| Pentane | Inhalation-Vapor (4 hours) | Rat | LC50 > 18 mg/l |
| Pentane | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Toluene | Dermal | Rat | LD50 12,000 mg/kg |
| Toluene | Inhalation-Vapor (4 hours) | Rat | LC50 30 mg/l |

| | | | |
|----------|----------------------------|--------|---------------------|
| Toluene | Ingestion | Rat | LD50 5,550 mg/kg |
| n-hexane | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| n-hexane | Inhalation-Vapor (4 hours) | Rat | LC50 170 mg/l |
| n-hexane | Ingestion | Rat | LD50 > 28,700 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| Cyclohexane | Rabbit | Mild irritant |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | In vitro data | No significant irritation |
| 2-Methylpentane | Professional judgement | Mild irritant |
| Hydrotreated light naphtha (petroleum) | Rabbit | Irritant |
| Non-volatile components | Professional judgement | No significant irritation |
| Petroleum naphtha | similar compounds | Mild irritant |
| Acetone | Mouse | Minimal irritation |
| Pentane | Rabbit | Minimal irritation |
| Toluene | Rabbit | Irritant |
| n-hexane | Human and animal | Mild irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| Cyclohexane | Rabbit | Mild irritant |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | In vitro data | No significant irritation |
| 2-Methylpentane | Professional judgement | Moderate irritant |
| Hydrotreated light naphtha (petroleum) | Rabbit | Mild irritant |
| Non-volatile components | Professional judgement | No significant irritation |
| Petroleum naphtha | similar compounds | No significant irritation |
| Acetone | Rabbit | Severe irritant |
| Pentane | Rabbit | Mild irritant |
| Toluene | Rabbit | Moderate irritant |
| n-hexane | Rabbit | Mild irritant |

Sensitization:

Skin Sensitisation

| Name | Species | Value |
|---|-------------------------|----------------|
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | Multiple animal species | Not classified |

| | | |
|--|-------------------|----------------|
| Hydrotreated light naphtha (petroleum) | Guinea pig | Not classified |
| Non-volatile components | | Not classified |
| Petroleum naphtha | similar compounds | Not classified |
| Pentane | Guinea pig | Not classified |
| Toluene | Guinea pig | Not classified |
| n-hexane | Human | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|---|----------|--|
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | In Vitro | Not mutagenic |
| Dimethyl ether | In Vitro | Not mutagenic |
| Dimethyl ether | In vivo | Not mutagenic |
| Hydrotreated light naphtha (petroleum) | In Vitro | Not mutagenic |
| Petroleum naphtha | In Vitro | Not mutagenic |
| 1,1-Difluoroethane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 1,1-Difluoroethane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Acetone | In vivo | Not mutagenic |
| Acetone | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Pentane | In vivo | Not mutagenic |
| Pentane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo | Not mutagenic |
| n-hexane | In Vitro | Not mutagenic |
| n-hexane | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|--|----------------|-------------------------|--|
| Dimethyl ether | Inhalation | Rat | Not carcinogenic |
| Hydrotreated light naphtha (petroleum) | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| 1,1-Difluoroethane | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Acetone | Not specified. | Multiple animal species | Not carcinogenic |
| 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 |
| n-hexane | Dermal | Mouse | Not carcinogenic |
| n-hexane | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |

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 |
| 1,1-Difluoroethane | Inhalation | Not classified for development | Rat | NOAEL 50,000 ppm | during organogenesis |
| Acetone | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,700 mg/kg/day | 13 weeks |
| Acetone | Inhalation | Not classified for development | Rat | NOAEL 5.2 mg/l | 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 |
| 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 |
| 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 |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|-----------------|------------|-----------------------------------|--|------------------------|---------------------|-------------------|
| 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 | |
| 2-Methylpentane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| 2-Methylpentane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| 2-Methylpentane | Inhalation | cardiac sensitization | Not classified | Dog | NOAEL Not available | |

| | | | | | | |
|--|------------|-----------------------------------|--|-------------------------|---------------------|------------------------|
| 2-Methylpentane | 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 sensitization | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 100,000 ppm | 5 minutes |
| Hydrotreated light naphtha (petroleum) | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Hydrotreated light naphtha (petroleum) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| Hydrotreated light naphtha (petroleum) | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Petroleum naphtha | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| 1,1-Difluoroethane | Inhalation | cardiac sensitization | Causes damage to organs | Human and animal | NOAEL Not available | poisoning and/or abuse |
| 1,1-Difluoroethane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL 100,000 ppm | |
| 1,1-Difluoroethane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | NOAEL Not available | not available |
| Acetone | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Acetone | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Acetone | Inhalation | immune system | Not classified | Human | NOAEL 1.19 mg/l | 6 hours |
| Acetone | Inhalation | liver | Not classified | Guinea pig | NOAEL Not available | |
| Acetone | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Pentane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL Not available | not 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 sensitization | 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 |
| 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 |
| 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 |
|----------|------------|--------------------|----------------|-----|-----------------|---------|

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|------------|---|----------------|------------|-----------------------|-------------------|
| 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 |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | Ingestion | heart gastrointestinal tract hematopoietic system liver nervous system eyes kidney and/or bladder | Not classified | Rat | NOAEL 331 mg/kg/day | 90 days |
| 2-Methylpentane | Inhalation | peripheral nervous system | Not classified | Rat | NOAEL 5.3 mg/l | 14 weeks |
| 2-Methylpentane | Ingestion | peripheral nervous system | Not classified | Rat | NOAEL Not available | 8 weeks |
| 2-Methylpentane | Ingestion | kidney and/or bladder | Not classified | Rat | LOAEL 2,000 mg/kg | 28 days |
| 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 |
| 1,1-Difluoroethane | Inhalation | hematopoietic system kidney and/or bladder respiratory system | Not classified | Rat | NOAEL 25,000 ppm | 2 years |
| Acetone | Dermal | eyes | Not classified | Guinea pig | NOAEL Not available | 3 weeks |
| Acetone | Inhalation | hematopoietic system | Not classified | Human | NOAEL 3 mg/l | 6 weeks |
| Acetone | Inhalation | immune system | Not classified | Human | NOAEL 1.19 mg/l | 6 days |
| Acetone | Inhalation | kidney and/or bladder | Not classified | Guinea pig | NOAEL 119 mg/l | not available |
| Acetone | Inhalation | heart liver | Not classified | Rat | NOAEL 45 mg/l | 8 weeks |
| Acetone | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 900 mg/kg/day | 13 weeks |
| Acetone | Ingestion | heart | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | hematopoietic system | Not classified | Rat | NOAEL 200 mg/kg/day | 13 weeks |
| Acetone | Ingestion | liver | Not classified | Mouse | NOAEL 3,896 mg/kg/day | 14 days |
| Acetone | Ingestion | eyes | Not classified | Rat | NOAEL 3,400 mg/kg/day | 13 weeks |
| Acetone | Ingestion | respiratory system | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | muscles | Not classified | Rat | NOAEL 2,500 mg/kg | 13 weeks |
| Acetone | Ingestion | skin bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 11,298 | 13 weeks |

| | | | | | mg/kg/day | |
|----------|------------|--|--|-------------------------|-----------------------|------------------------|
| 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 |
| 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 |
| 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 | Not classified | Human | NOAEL Not available | occupational exposure |

| | | | | | | |
|----------|------------|---|--|-----|-----------------------|----------|
| | | eyes | | | | |
| 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 bladder | Not classified | Rat | NOAEL Not available | 13 weeks |

Aspiration Hazard

| Name | Value |
|--|-------------------|
| Cyclohexane | Aspiration hazard |
| 2-Methylpentane | Aspiration hazard |
| Hydrotreated light naphtha (petroleum) | Aspiration hazard |
| Petroleum naphtha | Aspiration hazard |
| Pentane | Aspiration hazard |
| Toluene | Aspiration hazard |
| n-hexane | Aspiration hazard |

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.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 4: May cause long lasting harmful effects to aquatic organisms.

No product test data available.

| Material | CAS Nbr | Organism | Type | Exposure | Test endpoint | Test result |
|---|------------|------------------|--------------|----------|--------------------------------|-------------|
| 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 |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | 31393-98-3 | Activated sludge | Experimental | 3 hours | NOEC | 1,000 mg/l |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, | 31393-98-3 | Water flea | Experimental | 48 hours | No tox obs at lmt of water sol | >100 mg/l |

| | | | | | | |
|---|--------------|-------------------------------|---|----------|------|------------------------------|
| polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | | | | | | |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | 31393-98-3 | Water flea | Endpoint not reached | 21 days | EL10 | >100 mg/l |
| Non-volatile components | Trade Secret | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| 2-Methylpentane | 107-83-5 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Fathead minnow | Estimated | 96 hours | LL50 | 8.2 mg/l |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Green algae | Estimated | 72 hours | EL50 | 3.1 mg/l |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Water flea | Estimated | 48 hours | EL50 | 4.5 mg/l |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Green algae | Estimated | 72 hours | NOEL | 0.5 mg/l |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Water flea | Estimated | 21 days | NOEL | 2.6 mg/l |
| 1,1-Difluoroethane | 75-37-6 | Bacteria | Analogous Compound | 6 hours | EC50 | >472.57 mg/l |
| 1,1-Difluoroethane | 75-37-6 | Rainbow trout | Analogous Compound | 96 hours | LC50 | 291.31 mg/l |
| 1,1-Difluoroethane | 75-37-6 | Water flea | Analogous Compound | 48 hours | EC50 | 634.41 mg/l |
| Acetone | 67-64-1 | Algae or other aquatic plants | Experimental | 96 hours | EC50 | 11,493 mg/l |
| Acetone | 67-64-1 | Invertebrate | Experimental | 24 hours | LC50 | 2,100 mg/l |
| Acetone | 67-64-1 | Rainbow trout | Experimental | 96 hours | LC50 | 5,540 mg/l |
| Acetone | 67-64-1 | Water flea | Experimental | 21 days | NOEC | 1,000 mg/l |
| Acetone | 67-64-1 | Bacteria | Experimental | 16 hours | NOEC | 1,700 mg/l |
| Acetone | 67-64-1 | Redworm | Experimental | 48 hours | LC50 | >100 |
| Petroleum naphtha | 64742-48-9 | Green algae | Experimental | 72 hours | EL50 | >1,000 mg/l |
| Petroleum naphtha | 64742-48-9 | Rainbow trout | Experimental | 96 hours | LL50 | >1,000 mg/l |
| Petroleum naphtha | 64742-48-9 | Water flea | Experimental | 48 hours | EL50 | >1,000 mg/l |
| Petroleum naphtha | 64742-48-9 | Green algae | Experimental | 72 hours | NOEL | 1,000 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 |
| 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) |
| 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 |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|--------------|-----------------------------------|----------|-------------------------------|-------------------|-------------------------------------|
| 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) | |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | 31393-98-3 | Experimental Biodegradation | 28 days | BOD | 4 %BOD/ThOD | OECD 301D - Closed bottle test |
| Non-volatile components | Trade Secret | Data not available-insufficient | N/A | N/A | N/A | N/A |
| 2-Methylpentane | 107-83-5 | Data not available-insufficient | N/A | N/A | N/A | N/A |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Estimated Biodegradation | 28 days | BOD | 77 %BOD/ThOD | OECD 301F - Manometric respirometry |
| 1,1-Difluoroethane | 75-37-6 | Analogous Compound Biodegradation | 28 days | BOD | 3 %BOD/ThOD | OECD 301D - Closed bottle test |
| 1,1-Difluoroethane | 75-37-6 | Modeled Photolysis | | Photolytic half-life (in air) | 916 days (t 1/2) | Episuite™ |
| Acetone | 67-64-1 | Experimental Biodegradation | 28 days | BOD | 78 %BOD/ThOD | OECD 301D - Closed bottle test |
| Acetone | 67-64-1 | Experimental Photolysis | | Photolytic half-life (in air) | 147 days (t 1/2) | |
| Petroleum naphtha | 64742-48-9 | Experimental Biodegradation | 28 days | BOD | 31 %BOD/ThOD | OECD 301F - Manometric respirometry |
| 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) | |
| 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) | |
| 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) | |

12.3 : Bioaccumulative potential

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|-------------|----------|-------------------------------|----------|------------------------|-------------|--------------------------|
| 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 |
| 2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane | 31393-98-3 | Experimental Bioconcentration | | Log Kow | 7.41 | |
| Non-volatile components | Trade Secret | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| 2-Methylpentane | 107-83-5 | Estimated Bioconcentration | | Bioaccumulation factor | 150 | |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| 1,1-Difluoroethane | 75-37-6 | Modeled Bioconcentration | | Log Kow | 1.13 | Episuite™ |
| Acetone | 67-64-1 | Experimental BCF - Other | | Bioaccumulation factor | 0.65 | |
| Acetone | 67-64-1 | Experimental Bioconcentration | | Log Kow | -0.24 | |
| Petroleum naphtha | 64742-48-9 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Pentane | 109-66-0 | Estimated Bioconcentration | | Bioaccumulation factor | 26 | |
| Toluene | 108-88-3 | Experimental BCF - Other | 72 hours | Bioaccumulation factor | 90 | |
| Toluene | 108-88-3 | Experimental Bioconcentration | | Log Kow | 2.73 | |
| n-hexane | 110-54-3 | Modeled Bioconcentration | | Bioaccumulation factor | 50 | Catalogic™ |

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Disposal 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. Combustion products will include HF. Facility must be capable of handling halogenated materials. 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.

SECTION 14: Transport Information

International Regulations

UN No.: Not restricted for transport.

UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned

Transportation Class (IATA): None assigned

Other Dangerous Goods Descriptions (IMO): None assigned

Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: None assigned

Marine pollutant: None assigned

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

Fire Safety (Petroleum and Flammable Materials) Regulations: This product is subject to the requirements in the Regulations
Sewerage & Drainage Act and Sewerage and Drainage (Trade Effluent) Regulations: This product is subject to the requirements in the act/regulation.

Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the Regulations

SECTION 16: Other information

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.

3M Singapore SDSs are available at www.3m.com.sg