

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Regulations.

SECTION 1: Identification

-9

1.1. Product identifier

3M(TM) POLYSTYRENE FOAM INSULATION SPRAY ADHESIVE 78

| Product Identification | Numbers | | |
|-------------------------------|----------------|----------------|---------------|
| 62-4951-4950-2 | 62-4951-4955-1 | 62-4951-4970-0 | 62-4951-4975- |

1.2. Recommended use and restrictions on use

Recommended use

aerosol adhesive, aerosol insulation adhesive

1.3. Supplier's details

| Company: | 3M Canada Company |
|-----------------|--|
| Division: | Industrial Adhesives and Tapes Division |
| Address: | 1840 Oxford Street East, Post Office Box 5757, London, Ontario N6A 4T1 |
| Telephone: | (800) 364-3577 |
| Website: | www.3M.ca |

1.4. Emergency telephone number

Medical Emergency Telephone: (519) 451-2500, Ext. 2222; Transportation Emergency Telephone (CANUTEC): (613) 996-6666

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Flammable Aerosol: Category 1. Gas Under Pressure: Liquefied gas. Serious Eye Damage/Irritation: Category 2A. Skin Corrosion/Irritation: Category 2. Reproductive Toxicity: Category 2. Simple Asphyxiant. Specific Target Organ Toxicity (single exposure): Category 1. Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements Signal word

Danger

Symbols

Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms



Hazard statements

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes serious eye irritation. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May displace oxygen and cause rapid suffocation. Causes damage to organs: cardiovascular system |

Precautionary statements

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical advice/attention.

Storage:

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | C.A.S. No. | % by Wt | |
|--|--------------|---------|--|
| Dimethyl ether | 115-10-6 | 25 - 35 | |
| Nonvolatile components | Trade Secret | 15 - 25 | |
| 1,1-Difluoroethane | 75-37-6 | 10 - 20 | |
| Cyclohexane | 110-82-7 | 10 - 20 | |
| Hydrotreated light naphtha (petroleum) | 64742-49-0 | 5 - 10 | |
| 2,3-Dimethylbutane | 79-29-8 | 1 - 5 | |
| 2-Methylpentane | 107-83-5 | 1 - 5 | |

| 3-Methylpentane | 96-14-0 | 1 - 5 |
|-------------------|------------|-------|
| Acetone | 67-64-1 | 1 - 5 |
| Petroleum naphtha | 64742-48-9 | 1 - 5 |
| Neohexane | 75-83-2 | < 2.0 |
| Hexane | 110-54-3 | < 0.5 |

Nonvolatile components is a non-hazardous Trade Secret material according to WHMIS criteria. Dimethyl ether is a hazardous Trade Secret material according to WHMIS criteria. Refer to Section 15 for further information.

1,1-Difluoroethane is a hazardous Trade Secret material according to WHMIS criteria. Refer to Section 15 for further information.

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

See Section 11.1. Information on toxicological effects.

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

| <u>Substance</u> | <u>Condition</u> |
|------------------|-------------------|
| Aldehydes | During Combustion |
| Hydrocarbons | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | 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 vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes 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 authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. 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 release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) 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 oxidizing 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 | C.A.S. No. | Agency | Limit type | Additional Comments |
|--------------------|------------|--------------|--------------------------|----------------------------|
| 2-Methylpentane | 107-83-5 | ACGIH | TWA:500 ppm;STEL:1000 | |
| | | | ppm | |
| Hexane | 110-54-3 | ACGIH | TWA:50 ppm | SKIN |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Dimethyl ether | 115-10-6 | AIHA | TWA:1880 mg/m3(1000 ppm) | |
| Petroleum naphtha | 64742-48-9 | Manufacturer | TWA:100 ppm | |
| | | determined | | |
| Acetone | 67-64-1 | ACGIH | TWA:250 ppm;STEL:500 ppm | |
| 1,1-Difluoroethane | 75-37-6 | AIHA | TWA:2700 mg/m3(1000 ppm) | |
| Neohexane | 75-83-2 | ACGIH | TWA:500 ppm;STEL:1000 | |

| | | | ppm | |
|--------------------|---------|-------|-----------------------|--|
| 2,3-Dimethylbutane | 79-29-8 | ACGIH | TWA:500 ppm;STEL:1000 | |
| | | | ppm | |
| 3-Methylpentane | 96-14-0 | ACGIH | TWA:500 ppm;STEL:1000 | |
| | | | ppm | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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:

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.

Gloves made from the following material(s) are recommended: Fluoroelastomer Nitrile Rubber

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 supplied-air respirator

Organic vapor respirators 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

| Liquid |
|---|
| Aerosol |
| clear, sweet fruity odour |
| No Data Available |
| No Data Available |
| No Data Available |
| -45.6 °C [<i>Test Method</i> : Tagliabue Closed Cup] |
| 1.9 [<i>Ref Std</i> :ETHER=1] |
| |

| Flammability (solid, gas) | Not Applicable |
|---|---|
| Flammable Limits(LEL) | No Data Available |
| Flammable Limits(UEL) | No Data Available |
| Vapuor Density | >=2.57 [<i>Ref Std</i> :AIR=1] |
| Density | 0.761 g/ml |
| Relative density | 0.761 [<i>Ref Std</i> :WATER=1] |
| Water solubility | Nil |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | No Data Available |
| Decomposition temperature | No Data Available |
| Viscosity | Not Applicable |
| Volatile Organic Compounds | <=493 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1] |
| | [Details:Material VOC] |
| Volatile Organic Compounds | <=64.8 % [Test Method:calculated per CARB title 2] |

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 polymerization will not occur.

10.4. Conditions to avoid Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

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 labeling, 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:

Condition

Inhalation:

Intentional concentration and inhalation may be harmful or fatal. 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 diarrhea. 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 |
| Dimethyl ether | Inhalation- Gas (4 hours) | Rat | LC50 164,000 ppm |
| 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 |
| 1,1-Difluoroethane | Inhalation- Gas (4 hours) | Rat | LC50 > 437,000 ppm |
| 1,1-Difluoroethane | Ingestion | Rat | LD50 > 1,500 mg/kg |
| 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 |
| 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 |

| Petroleum naphtha | Inhalation- | | LC50 estimated to be 20 - 50 mg/l |
|------------------------|-----------------------------------|------------------|------------------------------------|
| | Vapor | | |
| Petroleum naphtha | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| Petroleum naphtha | Ingestion | Rat | LD50 > 5,000 mg/kg |
| 3-Methylpentane | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| 3-Methylpentane | Inhalation- Vapor | | LC50 estimated to be > 50 mg/l |
| 3-Methylpentane | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Nonvolatile components | Dermal | Not available | LD50 > 2,000 mg/kg |
| Nonvolatile components | Ingestion | Not available | LD50 > 2,000 mg/kg |
| 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 |
| 2,3-Dimethylbutane | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| 2,3-Dimethylbutane | Inhalation- Vapor | | LC50 estimated to be > 50 mg/l |
| 2,3-Dimethylbutane | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Neohexane | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Neohexane | Inhalation- Vapor | | LC50 estimated to be > 50 mg/l |
| Neohexane | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Hexane | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Hexane | Inhalation- Vapor (4 hours) | Rat | LC50 170 mg/l |
| Hexane | Ingestion | Rat | LD50 > 28,700 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|-----------|---------------------------|
| Cyclohexane | Rabbit | Mild irritant |
| | | |
| Hydrotreated light naphtha (petroleum) | Rabbit | Irritant |
| 2-Methylpentane | Professio | Mild irritant |
| | nal | |
| | judgeme | |
| | nt | |
| Petroleum naphtha | Rabbit | Irritant |
| 3-Methylpentane | Professio | Mild irritant |
| | nal | |
| | judgeme | |
| | nt | |
| Nonvolatile components | Professio | No significant irritation |
| | nal | |
| | judgeme | |
| | nt | |
| Acetone | Mouse | Minimal irritation |
| 2,3-Dimethylbutane | Professio | Mild irritant |
| | nal | |
| | judgeme | |
| | nt | |
| Neohexane | Professio | Mild irritant |
| | nal | |
| | judgeme | |
| | nt | |
| Hexane | Human | Mild irritant |
| | and | |
| | animal | |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|-----------|---------------------------|
| Cyclohexane | Rabbit | Mild irritant |
| Hydrotreated light naphtha (petroleum) | Rabbit | Mild irritant |
| 2-Methylpentane | Professio | Moderate irritant |
| × 1 | nal | |
| | judgeme | |
| | nt | |
| Petroleum naphtha | Rabbit | No significant irritation |
| 3-Methylpentane | Professio | Moderate irritant |
| × 1 | nal | |
| | judgeme | |
| | nt | |
| Nonvolatile components | Professio | No significant irritation |
| - | nal | |
| | judgeme | |
| | nt | |
| Acetone | Rabbit | Severe irritant |
| 2,3-Dimethylbutane | Professio | Moderate irritant |
| | nal | |
| | judgeme | |
| | nt | |
| Neohexane | Professio | Moderate irritant |
| | nal | |
| | judgeme | |
| | nt | |
| Hexane | Rabbit | Mild irritant |

Skin Sensitization

| | | - |
|--|---------|-----------------|
| Name | Species | Value |
| Hydrotreated light naphtha (petroleum) | Guinea | Not sensitizing |
| | pig | |
| Petroleum naphtha | Guinea | Not sensitizing |
| | pig | |
| Nonvolatile components | | Not sensitizing |
| Hexane | Human | Not sensitizing |

Respiratory Sensitization

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

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|--|
| Dimethyl ether | In Vitro | Not mutagenic |
| Dimethyl ether | In vivo | Not mutagenic |
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| 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 |
| Hydrotreated light naphtha (petroleum) | In Vitro | Not mutagenic |
| Petroleum naphtha | In vivo | Not mutagenic |
| Petroleum naphtha | In Vitro | 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 |
| Hexane | In Vitro | Not mutagenic |
| Hexane | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|------|-------|---------|-------|
| | | | |

| Dimethyl ether | Inhalation | Rat | Not carcinogenic |
|--|------------|----------|--|
| 1,1-Difluoroethane | Inhalation | Rat | Some positive data exist, but the data are not |
| | | | sufficient for classification |
| Hydrotreated light naphtha (petroleum) | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Petroleum naphtha | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Petroleum naphtha | Inhalation | Human | Some positive data exist, but the data are not |
| | | and | sufficient for classification |
| | | animal | |
| Acetone | Not | Multiple | Not carcinogenic |
| | Specified | animal | - |
| | _ | species | |
| Hexane | Dermal | Mouse | Not carcinogenic |
| 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 |
|--------------------|------------|--|---------|--------------------------|-----------------------------|
| Dimethyl ether | Inhalation | Not toxic to development | Rat | NOAEL 40,000 ppm | during organogenesi s |
| Cyclohexane | Inhalation | Not toxic to female reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Not toxic to male reproduction | Rat | NOAEL 24 mg/l | 2 generation |
| Cyclohexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 6.9 mg/l | 2 generation |
| 1,1-Difluoroethane | Inhalation | Not toxic to development | Rat | NOAEL 50,000 ppm | during organogenesi s |
| Petroleum naphtha | Inhalation | Not toxic to development | Rat | NOAEL 2.4 mg/l | during organogenesi s |
| Acetone | Ingestion | Some positive male reproductive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,700 mg/kg/day | 13 weeks |
| Acetone | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 5.2 mg/l | during organogenesi s |
| Hexane | Ingestion | Not toxic to development | Mouse | NOAEL 2,200 mg/kg/day | during organogenesi s |
| Hexane | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.7 mg/l | during gestation |
| Hexane | Ingestion | Toxic to male reproduction | Rat | NOAEL 1,140 mg/kg/day | 90 days |
| 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 |
| Dimethyl ether | Inhalation | central nervous | May cause drowsiness or | Rat | LOAEL | 30 minutes |
| | | system depression | dizziness | | 10,000 ppm | |
| Dimethyl ether | Inhalation | cardiac sensitization | Some positive data exist, but the | Dog | NOAEL | 5 minutes |
| | | | data are not sufficient for | | 100,000 ppm | |
| | | | classification | | | |

| 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 | Professio nal judgeme nt | 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 |
| 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 | Professio nal judgeme nt | NOAEL Not available | |
| 2-Methylpentane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | 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 | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL Not available | |
| 2-Methylpentane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| Petroleum naphtha | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human and animal | NOAEL Not available | |
| Petroleum naphtha | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| Petroleum naphtha | Inhalation | nervous system | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL 6.5 mg/l | 4 hours |
| Petroleum naphtha | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| 3-Methylpentane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| 3-Methylpentane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| 3-Methylpentane | Inhalation | cardiac sensitization | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL Not available | |
| 3-Methylpentane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professio nal | NOAEL Not available | |

| | | | | judgeme nt | | |
|--------------------|------------|--------------------------------------|--|-----------------------------------|------------------------|---------------------------|
| 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 | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 hours |
| Acetone | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | |
| Acetone | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| 2,3-Dimethylbutane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| 2,3-Dimethylbutane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| 2,3-Dimethylbutane | Inhalation | cardiac sensitization | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL Not available | |
| 2,3-Dimethylbutane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| Neohexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| Neohexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |
| Neohexane | Inhalation | cardiac sensitization | Some positive data exist, but the data are not sufficient for classification | Dog | NOAEL Not available | |
| Neohexane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professio nal judgeme nt | NOAEL Not available | |
| Hexane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| Hexane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL Not available | 8 hours |
| Hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | 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 |
|----------------|------------|-------------------------|--|---------|---------------------|----------------------|
| Dimethyl ether | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 25,000 ppm | 2 years |
| Dimethyl ether | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 20,000 ppm | 30 weeks |
| Cyclohexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 24 mg/l | 90 days |
| Cyclohexane | Inhalation | auditory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.7 mg/l | 90 days |

| Cyclohexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
|--------------------|------------|--|--|-------------------------------|-----------------------------|---------------|
| Cyclohexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 24 mg/l | 14 weeks |
| Cyclohexane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 8.6 mg/l | 30 weeks |
| 1,1-Difluoroethane | Inhalation | hematopoietic system kidney and/or bladder respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 25,000 ppm | 2 years |
| 2-Methylpentane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 5.3 mg/l | 14 weeks |
| 2-Methylpentane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 8 weeks |
| 2-Methylpentane | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2,000 mg/kg | 28 days |
| Petroleum naphtha | Inhalation | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 4.6 mg/l | 6 months |
| Petroleum naphtha | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1.9 mg/l | 13 weeks |
| Petroleum naphtha | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Multiple animal species | NOAEL 0.6 mg/l | 90 days |
| Petroleum naphtha | Inhalation | bone, teeth, nails, and/or hair blood liver muscles | All data are negative | Rat | NOAEL 5.6 mg/l | 12 weeks |
| Petroleum naphtha | Inhalation | heart | All data are negative | Multiple animal species | NOAEL 1.3 mg/l | 90 days |
| 3-Methylpentane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 5.3 mg/l | 14 weeks |
| 3-Methylpentane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 8 weeks |
| 3-Methylpentane | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2,000 mg/kg | 28 days |
| Acetone | Dermal | eyes | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL Not available | 3 weeks |
| Acetone | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 3 mg/l | 6 weeks |
| Acetone | Inhalation | immune system | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL 1.19 mg/l | 6 days |
| Acetone | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Guinea pig | NOAEL 119 mg/l | not available |
| Acetone | Inhalation | heart liver | All data are negative | Rat | NOAEL 45 mg/l | 8 weeks |
| Acetone | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 900 mg/kg/day | 13 weeks |
| Acetone | Ingestion | heart | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 200 mg/kg/day | 13 weeks |
| Acetone | Ingestion | liver | Some positive data exist, but the data are not sufficient for | Mouse | NOAEL 3,896 | 14 days |

| | | | classification | | mg/kg/day | |
|--------------------|------------|--|--|-------|------------------------------|--------------------------|
| Acetone | Ingestion | eyes | All data are negative | Rat | NOAEL 3,400 mg/kg/day | 13 weeks |
| Acetone | Ingestion | respiratory system | All data are negative | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Acetone | Ingestion | muscles | All data are negative | Rat | NOAEL 2,500 mg/kg | 13 weeks |
| Acetone | Ingestion | skin bone, teeth, nails, and/or hair | All data are negative | Mouse | NOAEL 11,298 mg/kg/day | 13 weeks |
| 2,3-Dimethylbutane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 5.3 mg/l | 14 weeks |
| 2,3-Dimethylbutane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 8 weeks |
| 2,3-Dimethylbutane | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2,000 mg/kg | 28 days |
| Neohexane | Inhalation | peripheral nervous system | All data are negative | Rat | NOAEL 5.3 mg/l | 14 weeks |
| Neohexane | Ingestion | peripheral nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 8 weeks |
| Neohexane | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 2,000 mg/kg | 28 days |
| Hexane | Inhalation | peripheral nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Mouse | LOAEL 1.76 mg/l | 13 weeks |
| Hexane | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 6 months |
| Hexane | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 1.76 mg/l | 6 months |
| Hexane | Inhalation | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 35.2 mg/l | 13 weeks |
| Hexane | Inhalation | auditory system immune system eyes | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | heart skin endocrine system | All data are negative | Rat | NOAEL 1.76 mg/l | 6 months |
| 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 |
| Hexane | Ingestion | endocrine system hematopoietic system liver immune system kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 13 weeks |

Aspiration Hazard

| Name | Value |
|--|-------------------|
| Cyclohexane | Aspiration hazard |
| Hydrotreated light naphtha (petroleum) | Aspiration hazard |
| 2-Methylpentane | Aspiration hazard |
| Petroleum naphtha | Aspiration hazard |
| 3-Methylpentane | Aspiration hazard |
| 2,3-Dimethylbutane | Aspiration hazard |
| Neohexane | Aspiration hazard |
| 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

No data available.

SECTION 13: Disposal considerations

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

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 China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional 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 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 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. The components of this product are in compliance with the chemical notification requirements of TSCA.

Trade Secret Information: HMIRA Registry Number: Filing date: TBD

Claim status:Date of decision:Claim for exemption has beenfiled.

SECTION 16: Other information

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Health: 2 Flammability: 4 Instability: 0 Special Hazards: None Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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