



Safety Data Sheet

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

1.1. Product identifier

3M™ Rubber and Gasket Adhesive 4799

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|------------------|----------------|------------------|
| 62-4799-2631-3 | 00-21200-21354-0 | 62-4799-2635-4 | |
| 62-4799-6530-3 | 00-21200-21357-1 | 62-4799-7530-2 | 00-21200-21358-8 |
| 62-4799-8530-1 | 00-21200-21359-5 | | |

7000000926, 7000121415, 7000121416, 7000000927, 7000000928

1.2. Recommended use and restrictions on use

Recommended use

Adhesive, Adhesive for rubber to metal.

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Industrial Adhesives and Tapes Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Liquid: Category 2.

Serious Eye Damage/Irritation: Category 2B.

Skin Corrosion/Irritation: Category 2.

Reproductive Toxicity: Category 1B.

Specific Target Organ Toxicity (single exposure): Category 3.

Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Highly flammable liquid and vapor.

Causes eye irritation.

Causes skin irritation.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure:

nervous system |

sensory organs |

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Do not breathe dust/fume/gas/mist/vapors/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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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 skin irritation occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Disposal:

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

9% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---------------------------|------------|------------------------|
| Petroleum Distillates | 64741-84-0 | 50 - 70 Trade Secret * |
| Hexane | 110-54-3 | 10 - 35 Trade Secret * |
| Heptane | 142-82-5 | 5 - 20 Trade Secret * |
| 2-Methylpentane | 107-83-5 | 5 - 10 Trade Secret * |
| 3-Methylpentane | 96-14-0 | 5 - 10 Trade Secret * |
| Magnesium Resinate | 68037-42-3 | 2 - 10 Trade Secret * |
| Talc | 14807-96-6 | 5 - 10 Trade Secret * |
| Cyclohexane | 110-82-7 | < 7 Trade Secret * |
| Hydrocarbon Resin | 68478-07-9 | 3 - 7 Trade Secret * |
| Styrene-Butadiene Polymer | 9003-55-8 | 3 - 7 Trade Secret * |
| Toluene | 108-88-3 | 3 - 7 Trade Secret * |
| Calcium Zinc Resinate | 68334-35-0 | 1 - 5 Trade Secret * |
| Ethyl Alcohol | 64-17-5 | < 1 Trade Secret * |
| Carbon Black | 1333-86-4 | < 0.5 Trade Secret * |
| Zinc Oxide | 1314-13-2 | < 0.25 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, 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:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

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 |
| Oxides of Zinc | 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. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors 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

Contain spill. Cover spill area with a fire-extinguishing foam. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/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.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. 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 | |
| Toluene | 108-88-3 | ACGIH | TWA:20 ppm | A4: Not class. as human carcin |
| Toluene | 108-88-3 | OSHA | TWA:200 ppm;CEIL:300 ppm | |
| Hexane | 110-54-3 | ACGIH | TWA:50 ppm | Danger of cutaneous absorption |
| Hexane | 110-54-3 | OSHA | TWA:1800 mg/m3(500 ppm) | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Cyclohexane | 110-82-7 | OSHA | TWA:1050 mg/m3(300 ppm) | |
| Zinc Oxide | 1314-13-2 | ACGIH | TWA(respirable fraction):2 mg/m3;STEL(respirable fraction):10 mg/m3 | |
| Zinc Oxide | 1314-13-2 | OSHA | TWA(as fume):5 mg/m3;TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Carbon Black | 1333-86-4 | ACGIH | TWA(inhalable fraction):3 mg/m3 | A3: Confirmed animal carcin. |
| Carbon Black | 1333-86-4 | OSHA | TWA:3.5 mg/m3 | |
| Heptane | 142-82-5 | ACGIH | TWA:400 ppm;STEL:500 ppm | |
| Heptane | 142-82-5 | OSHA | TWA:2000 mg/m3(500 ppm) | |
| DUST, INERT OR NUISANCE | 14807-96-6 | OSHA | TWA(as total dust):15 mg/m3;TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3);TWA(respirable fraction):5 mg/m3 | |
| Talc | 14807-96-6 | ACGIH | TWA(respirable fraction):2 mg/m3 | A4: Not class. as human carcin |
| Talc | 14807-96-6 | OSHA | TWA:2 mg/m3 | |
| Ethyl Alcohol | 64-17-5 | ACGIH | STEL:1000 ppm | A3: Confirmed animal carcin. |

| | | | |
|-----------------|---------|-------|---------------------------|
| Ethyl Alcohol | 64-17-5 | OSHA | TWA:1900 mg/m3(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
 OSHA : United States Department of Labor - Occupational Safety and Health Administration
 TWA: Time-Weighted-Average
 STEL: Short Term Exposure Limit
 CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation 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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polyvinyl Alcohol (PVA)

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 vapors and particulates

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

Appearance

Physical state
Color

Liquid
 Black

Odor

Mild Odor

Odor threshold

No Data Available

pH

No Data Available

Melting point

No Data Available

Boiling Point

140 °F

| | |
|---|---|
| Flash Point | -14 °F [<i>Test Method</i> :Closed Cup] |
| Evaporation rate | 2.5 [<i>Ref Std</i> :ETHER=1] |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | 1 % volume |
| Flammable Limits(UEL) | 7 % volume |
| Vapor Pressure | 120 mmHg [<i>Details</i> :CONDITIONS: @ 68F] |
| Vapor Density | 3 [<i>Ref Std</i> :AIR=1] |
| Density | 0.82 g/ml |
| Specific Gravity | 0.82 [<i>Ref Std</i> :WATER=1] |
| Solubility in Water | Slight (less than 10%) |
| 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> |
| Viscosity | 7,500 - 18,000 centipoise |
| Hazardous Air Pollutants | <=32 % weight |
| Molecular weight | <i>No Data Available</i> |
| Percent volatile | Approximately 65 % weight |
| VOC Less H2O & Exempt Solvents | <=572 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1] |
| Solids Content | 20 - 40 % weight |

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

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance

None known.

Condition

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:

Inhalation:

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:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy 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.

Prolonged or repeated exposure may cause target organ effects:

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Peripheral Neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

| Ingredient | CAS No. | Class Description | Regulation |
|--------------|--------------|-------------------------------|---|
| Carbon Black | Trade Secret | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the

foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

Toxicological Data

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

Acute Toxicity

| Name | Route | Species | Value |
|---------------------------|----------------------------|---------|--|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Petroleum Distillates | Dermal | Rat | LD50 > 2,800 mg/kg |
| Petroleum Distillates | Inhalation-Vapor (4 hours) | Rat | LC50 > 25.2 mg/l |
| Petroleum Distillates | Ingestion | Rat | LD50 > 5,840 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 |
| Heptane | Dermal | Rabbit | LD50 3,000 mg/kg |
| Heptane | Inhalation-Vapor (4 hours) | Rat | LC50 103 mg/l |
| Heptane | Ingestion | Rat | LD50 > 15,000 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 |
| 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 |
| 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 |
| Talc | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Talc | Ingestion | | LD50 estimated to be > 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 |
| Hydrocarbon Resin | Dermal | Rabbit | LD50 > 3,160 mg/kg |
| Styrene-Butadiene Polymer | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Hydrocarbon Resin | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Styrene-Butadiene Polymer | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Magnesium Resinate | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Magnesium Resinate | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Ethyl Alcohol | Dermal | Rabbit | LD50 > 15,800 mg/kg |
| Ethyl Alcohol | Inhalation-Vapor (4 hours) | Rat | LC50 124.7 mg/l |
| Ethyl Alcohol | Ingestion | Rat | LD50 17,800 mg/kg |
| Carbon Black | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| Carbon Black | Ingestion | Rat | LD50 > 8,000 mg/kg |
| Zinc Oxide | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Zinc Oxide | Inhalation- | Rat | LC50 > 5.7 mg/l |

| | | | |
|------------|------------------------|-----|--------------------|
| | Dust/Mist (4 hours) | | |
| Zinc Oxide | Ingestion | Rat | LD50 > 5,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---------------------------|------------------------|---------------------------|
| Petroleum Distillates | Rabbit | Irritant |
| Hexane | Human and animal | Mild irritant |
| Heptane | Human | Mild irritant |
| 2-Methylpentane | Professional judgement | Mild irritant |
| 3-Methylpentane | Professional judgement | Mild irritant |
| Toluene | Rabbit | Irritant |
| Talc | Rabbit | No significant irritation |
| Cyclohexane | Rabbit | Mild irritant |
| Hydrocarbon Resin | similar compounds | No significant irritation |
| Styrene-Butadiene Polymer | Professional judgement | No significant irritation |
| Ethyl Alcohol | Rabbit | No significant irritation |
| Carbon Black | Rabbit | No significant irritation |
| Zinc Oxide | Human and animal | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-----------------------|------------------------|---------------------------|
| Petroleum Distillates | Rabbit | Mild irritant |
| Hexane | Rabbit | Mild irritant |
| Heptane | Professional judgement | Moderate irritant |
| 2-Methylpentane | Professional judgement | Moderate irritant |
| 3-Methylpentane | Professional judgement | Moderate irritant |
| Toluene | Rabbit | Moderate irritant |
| Talc | Rabbit | No significant irritation |
| Cyclohexane | Rabbit | Mild irritant |
| Hydrocarbon Resin | similar compounds | Mild irritant |
| Ethyl Alcohol | Rabbit | Severe irritant |
| Carbon Black | Rabbit | No significant irritation |
| Zinc Oxide | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|-----------------------|------------|----------------|
| Petroleum Distillates | Guinea pig | Not classified |
| Hexane | Human | Not classified |
| Toluene | Guinea pig | Not classified |
| Ethyl Alcohol | Human | Not classified |
| Zinc Oxide | Guinea pig | Not classified |

Respiratory Sensitization

| Name | Species | Value |
|------|---------|----------------|
| Talc | Human | Not classified |

Germ Cell Mutagenicity

| Name | Route | Value |
|---------------|----------|--|
| Hexane | In Vitro | Not mutagenic |
| Hexane | In vivo | Not mutagenic |
| Heptane | In Vitro | Not mutagenic |
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo | Not mutagenic |
| Talc | In Vitro | Not mutagenic |
| Talc | In vivo | Not mutagenic |
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Alcohol | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Alcohol | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Carbon Black | In Vitro | Not mutagenic |
| Carbon Black | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Zinc Oxide | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Zinc Oxide | In vivo | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|---------------|------------|-------------------------|--|
| Hexane | Dermal | Mouse | Not carcinogenic |
| Hexane | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Inhalation | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Talc | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Alcohol | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Carbon Black | Dermal | Mouse | Not carcinogenic |
| Carbon Black | Ingestion | Mouse | Not carcinogenic |
| Carbon Black | Inhalation | Rat | Carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-----------------------|------------|--|-------------------------|-----------------------|--------------------------------|
| Petroleum Distillates | Ingestion | Toxic to male reproduction | similar compounds | NOAEL not available | not available |
| Petroleum Distillates | Inhalation | Toxic to male reproduction | similar compounds | NOAEL not available | not available |
| Hexane | Ingestion | Not classified for development | Mouse | NOAEL 2,200 mg/kg/day | during organogenesis |
| Hexane | Inhalation | Not classified for development | 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 |
| 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 |
| Talc | Ingestion | Not classified for development | Rat | NOAEL 1,600 mg/kg | during organogenesis |
| 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 |
| Ethyl Alcohol | Inhalation | Not classified for development | Rat | NOAEL 38 mg/l | during gestation |
| Ethyl Alcohol | Ingestion | Not classified for development | Rat | NOAEL 5,200 mg/kg/day | prematuring & during gestation |
| Zinc Oxide | Ingestion | Not classified for reproduction and/or development | Multiple animal species | NOAEL 125 mg/kg/day | prematuring & during gestation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------|------------|-----------------------------------|--|-------------------|---------------------|-------------------|
| Petroleum Distillates | Inhalation | central nervous system depression | May cause drowsiness or dizziness | similar compounds | NOAEL not available | not available |
| Petroleum Distillates | Ingestion | central nervous system depression | May cause drowsiness or dizziness | similar compounds | NOAEL not available | 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 | Not classified | Rat | NOAEL 24.6 mg/l | 8 hours |
| Heptane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Heptane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |

| | | | | | | |
|-----------------|------------|-----------------------------------|--|-------------------------|---------------------|------------------------|
| Heptane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | 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 | |
| 3-Methylpentane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | 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 | Not classified | Dog | NOAEL Not available | |
| 3-Methylpentane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Toluene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Toluene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Toluene | Inhalation | immune system | Not classified | Mouse | NOAEL 0.004 mg/l | 3 hours |
| Toluene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| 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 | |
| Ethyl Alcohol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | LOAEL 2.6 mg/l | 30 minutes |
| Ethyl Alcohol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL 9.4 mg/l | not available |
| Ethyl Alcohol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL not available | |
| Ethyl Alcohol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------|------------|---------------------------|--|-------------------|---------------------|-----------------------|
| Petroleum Distillates | Inhalation | peripheral nervous system | May cause damage to organs though prolonged or repeated exposure | similar compounds | NOAEL not available | not available |
| 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 | Mouse | LOAEL 1.76 | 13 weeks |

| | | | | | | |
|-----------------|------------|---|--|-------------------------|-----------------------|------------------------|
| | | | data are not sufficient for classification | | mg/l | |
| Hexane | Inhalation | liver | Not classified | Rat | NOAEL Not available | 6 months |
| Hexane | Inhalation | kidney and/or bladder | Not classified | Rat | LOAEL 1.76 mg/l | 6 months |
| Hexane | Inhalation | hematopoietic system | Not classified | Mouse | NOAEL 35.2 mg/l | 13 weeks |
| Hexane | Inhalation | auditory system immune system eyes | Not classified | Human | NOAEL Not available | occupational exposure |
| Hexane | Inhalation | heart skin endocrine system | Not classified | 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 | Not classified | Rat | NOAEL Not available | 13 weeks |
| Heptane | Inhalation | liver nervous system kidney and/or bladder | Not classified | Rat | NOAEL 12 mg/l | 26 weeks |
| 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 |
| 3-Methylpentane | Inhalation | peripheral nervous system | Not classified | Rat | NOAEL 5.3 mg/l | 14 weeks |
| 3-Methylpentane | Ingestion | peripheral nervous system | Not classified | Rat | NOAEL Not available | 8 weeks |
| 3-Methylpentane | Ingestion | kidney and/or bladder | Not classified | Rat | LOAEL 2,000 mg/kg | 28 days |
| Toluene | Inhalation | auditory system eyes olfactory system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | poisoning and/or abuse |
| Toluene | Inhalation | nervous system | May cause 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 | Not classified | Multiple | NOAEL | 13 weeks |

| | | | | | | |
|---------------|------------|---|--|----------------|-----------------------|-----------------------|
| | | bladder | | animal species | 2,500 mg/kg/day | |
| 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 |
| Talc | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Talc | Inhalation | pulmonary fibrosis respiratory system | Not classified | Rat | NOAEL 18 mg/m3 | 113 weeks |
| Cyclohexane | Inhalation | liver | Not classified | Rat | NOAEL 24 mg/l | 90 days |
| Cyclohexane | Inhalation | auditory system | Not classified | Rat | NOAEL 1.7 mg/l | 90 days |
| Cyclohexane | Inhalation | kidney and/or bladder | Not classified | Rabbit | NOAEL 2.7 mg/l | 10 weeks |
| Cyclohexane | Inhalation | hematopoietic system | Not classified | Mouse | NOAEL 24 mg/l | 14 weeks |
| Cyclohexane | Inhalation | peripheral nervous system | Not classified | Rat | NOAEL 8.6 mg/l | 30 weeks |
| Ethyl Alcohol | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 124 mg/l | 365 days |
| Ethyl Alcohol | Inhalation | hematopoietic system immune system | Not classified | Rat | NOAEL 25 mg/l | 14 days |
| Ethyl Alcohol | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 8,000 mg/kg/day | 4 months |
| Ethyl Alcohol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg/day | 7 days |
| Carbon Black | Inhalation | pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| Zinc Oxide | Ingestion | nervous system | Not classified | Rat | NOAEL 600 mg/kg/day | 10 days |
| Zinc Oxide | Ingestion | endocrine system hematopoietic system kidney and/or bladder | Not classified | Other | NOAEL 500 mg/kg/day | 6 months |

Aspiration Hazard

| Name | Value |
|-----------------------|-------------------|
| Petroleum Distillates | Aspiration hazard |
| Hexane | Aspiration hazard |
| Heptane | Aspiration hazard |
| 2-Methylpentane | Aspiration hazard |
| 3-Methylpentane | Aspiration hazard |
| Toluene | Aspiration hazard |
| Cyclohexane | 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

Ecotoxicological information

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

Chemical fate information

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

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. 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.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

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. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Reproductive toxicity

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

| <u>Ingredient</u> | <u>C.A.S. No</u> | <u>% by Wt</u> |
|--|------------------|----------------------|
| Cyclohexane | 110-82-7 | Trade Secret < 7 |
| Toluene | 108-88-3 | Trade Secret 3 - 7 |
| Hexane | 110-54-3 | Trade Secret 10 - 35 |
| Hexane (Hexane) | 110-54-3 | 10 - 35 |
| Calcium Zinc Resinate (ZINC COMPOUNDS) | 68334-35-0 | 1 - 5 |
| Zinc Oxide (ZINC COMPOUNDS) | 1314-13-2 | < 0.25 |

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 3 Instability: 0 Special Hazards: None

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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