



Safety Data Sheet

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 30-3682-9 | Version Number: | 2.04 |
| Issue Date: | 05/28/20 | Supersedes Date: | 03/27/18 |

Product identifier

3M™ Aerospace Sealant AC-251 Black B-2

ID Number(s):

41-4901-0266-6, 70-0052-0183-8, 70-0052-0184-6, 70-0052-0185-3, 70-0052-0187-9, 70-0052-0188-7, 70-0052-0957-5, 70-0052-2052-3, 70-0052-2053-1, 70-0052-2054-9, 70-0052-2055-6, 70-0052-2056-4, 70-0052-4362-4, 70-0052-4363-2, 70-0052-4364-0

7000048205, 7100133274, 7100026367, 7000048207, 7000048272, 7000048273, 7100053346, 7010333054, 7010370607, 7010333239, 7010290423, 7010372247, 7100169376

Recommended use

Sealant

Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Automotive and Aerospace Solutions Division |

| | |
|-------------------|---|
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

Emergency telephone number

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

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

30-3448-5, 30-3193-7

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 30-3448-5 | Version Number: | 3.01 |
| Issue Date: | 07/22/21 | Supersedes Date: | 05/22/18 |

SECTION 1: Identification

1.1. Product identifier

3M™ Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base

Product Identification Numbers

LC-B100-1135-5, LC-B100-1135-6, LC-B100-1135-7, LC-B100-1135-8, LC-B100-1135-9, LC-B100-1136-0, LC-B100-1136-1, LC-B100-1955-0, 41-4901-0207-0, 42-0044-2103-0, 42-0044-2104-8, 42-0044-2105-5, 70-0052-1972-3
7010333032

1.2. Recommended use and restrictions on use

Recommended use

For industrial or professional use only., Sealant

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Automotive and Aerospace Solutions 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

Reproductive Toxicity: Category 1B.

2.2. Label elements

Signal word

Danger

Symbols

Health Hazard |

Pictograms

**Hazard Statements**

May damage fertility or the unborn child.

Precautionary Statements**Prevention:**

Obtain special instructions before use.

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

Wear protective gloves.

Response:

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

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

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--------------------|------------|-----------------------|
| POLYSULFIDE RUBBER | 68611-50-7 | 55 - 65 |
| CALCIUM CARBONATE | 471-34-1 | 30 - 40 |
| Toluene | 108-88-3 | < 0.99 Trade Secret * |
| CARBON BLACK | 1333-86-4 | < 0.5 Trade Secret * |
| QUARTZ SILICA | 14808-60-7 | < 0.5 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:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

No need for first aid is anticipated.

If Swallowed:

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

4.2. Most important symptoms and effects, both acute and delayed

No critical symptoms or effects. 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 ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Formaldehyde

Carbon monoxide

Carbon dioxide

Hydrogen Chloride

Condition

During Combustion

During Combustion

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

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. 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. 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. 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. Place in a closed 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**

Do not handle until all safety precautions have been read and understood. 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. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases.

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 |
|-------------------------|------------|--------|---|---|
| Toluene | 108-88-3 | ACGIH | TWA:20 ppm | A4: Not class. as human carcin, Ototoxicant |
| Toluene | 108-88-3 | OSHA | TWA:200 ppm;CEIL:300 ppm | |
| 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 | |
| QUARTZ SILICA | 14808-60-7 | ACGIH | TWA(respirable fraction):0.025 mg/m3 | A2: Suspected human carcin. |
| QUARTZ SILICA | 14808-60-7 | OSHA | TWA Table Z-1(respirable):0.05 mg/m3;TWA Table Z-3(respirable):0.1 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.) | |
| DUST, INERT OR NUISANCE | 471-34-1 | OSHA | TWA(as total dust):15 mg/m3;TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):5 mg/m3;TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3) | |
| Limestone | 471-34-1 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |

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.

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

Skin/hand protection

No chemical protective gloves are required.

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

Liquid

Color

Black

Specific Physical Form:

Paste

Odor

Sulfuric

Odor threshold

No Data Available

pH

No Data Available

Melting point

Not Applicable

Boiling Point

Not Applicable

Flash Point

≥ 200 °F [*Test Method: Closed Cup*]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

No Data Available

Vapor Density

No Data Available

Density

1.61 g/ml

Specific Gravity

1.61 [*Ref Std: WATER=1*]

Solubility in Water

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

No Data Available

Volatile Organic Compounds

2.5 g/l

Percent volatile

0.1 %

VOC Less H₂O & Exempt Solvents

2.5 g/l

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

None known.

10.5. Incompatible materials

Reducing agents
Strong acids
Strong bases

10.6. Hazardous decomposition products**Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not 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:

Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

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:**Reproductive/Developmental Toxicity:**

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

Carcinogenicity:

| Ingredient | CAS No. | Class Description | Regulation |
|-------------------------|----------------|--------------------------------|---|
| SILICA, CRYSTAL AIRRESP | 14808-60-7 | Known human carcinogen | National Toxicology Program Carcinogens |
| CARBON BLACK | 1333-86-4 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| QUARTZ SILICA | 14808-60-7 | Grp. 1: Carcinogenic to humans | International Agency for Research on Cancer |

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 | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| POLYSULFIDE RUBBER | Dermal | Rat | LD50 > 7,800 mg/kg |
| POLYSULFIDE RUBBER | Ingestion | Rat | LD50 > 5,000 mg/kg |
| CALCIUM CARBONATE | Dermal | Rat | LD50 > 2,000 mg/kg |
| CALCIUM CARBONATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 3 mg/l |
| CALCIUM CARBONATE | Ingestion | Rat | LD50 6,450 mg/kg |
| CARBON BLACK | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| CARBON BLACK | Ingestion | Rat | LD50 > 8,000 mg/kg |
| QUARTZ SILICA | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| QUARTZ SILICA | 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 |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--------------------|------------------------|---------------------------|
| POLYSULFIDE RUBBER | Rabbit | No significant irritation |
| CALCIUM CARBONATE | Rabbit | No significant irritation |
| CARBON BLACK | Rabbit | No significant irritation |
| QUARTZ SILICA | Professional judgement | No significant irritation |
| Toluene | Rabbit | Irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--------------------|---------|---------------------------|
| POLYSULFIDE RUBBER | Rabbit | No significant irritation |
| CALCIUM CARBONATE | Rabbit | No significant irritation |
| CARBON BLACK | Rabbit | No significant irritation |
| Toluene | Rabbit | Moderate irritant |

Skin Sensitization

| Name | Species | Value |
|--------------------|------------|----------------|
| POLYSULFIDE RUBBER | | Not classified |
| Toluene | Guinea pig | Not classified |

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 |
|--------------|----------|--|
| CARBON BLACK | In Vitro | Not mutagenic |
| CARBON BLACK | In vivo | Some positive data exist, but the data are not sufficient for classification |

| | | |
|---------------|----------|--|
| QUARTZ SILICA | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| QUARTZ SILICA | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---------------|------------|------------------|--|
| CARBON BLACK | Dermal | Mouse | Not carcinogenic |
| CARBON BLACK | Ingestion | Mouse | Not carcinogenic |
| CARBON BLACK | Inhalation | Rat | Carcinogenic |
| QUARTZ SILICA | Inhalation | Human and animal | 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 |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-------------------|------------|--|---------|---------------------|--------------------------------|
| CALCIUM CARBONATE | Ingestion | Not classified for development | Rat | NOAEL 625 mg/kg/day | prematuring & during gestation |
| 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 |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------------|------------|-----------------------------------|--|---------|---------------------|------------------------|
| CALCIUM CARBONATE | Inhalation | respiratory system | Not classified | Rat | NOAEL 0.812 mg/l | 90 minutes |
| 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 |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------------|------------|--------------------|---------------------------------|---------|---------------------|-----------------------|
| CALCIUM CARBONATE | Inhalation | respiratory system | Not classified | Human | NOAEL Not available | occupational exposure |
| CARBON BLACK | Inhalation | pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| QUARTZ SILICA | Inhalation | silicosis | Causes damage to organs through | Human | NOAEL Not available | occupational |

| | | | prolonged or repeated exposure | | available | exposure |
|---------|------------|---|--|-------------------------|-----------------------|------------------------|
| 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 though 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 |

Aspiration Hazard

| Name | Value |
|---------|-------------------|
| Toluene | 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.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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): Not regulated

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

Not applicable

Health Hazards

Reproductive toxicity

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: 1 **Flammability:** 1 **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.

Document Group:

30-3448-5

Version Number:

3.01

Issue Date: 07/22/21**Supersedes Date:** 05/22/18

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 30-3193-7 | Version Number: | 3.03 |
| Issue Date: | 07/23/21 | Supersedes Date: | 03/08/19 |

SECTION 1: Identification

1.1. Product identifier

3M™ Aerospace Sealant AC-251 Black B-2 Catalyst

Product Identification Numbers

LC-B100-1118-4, LC-B100-1118-5, LC-B100-1118-6, LC-B100-1118-7, LC-B100-1118-8, 41-4901-0224-5, 41-4901-0253-4, 42-0044-2025-5
4100040460

1.2. Recommended use and restrictions on use

Recommended use

Hardener, For industrial or professional use only.

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Automotive and Aerospace Solutions 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

Serious Eye Damage/Irritation: Category 2A.

Skin Corrosion/Irritation: Category 2.

Reproductive Toxicity: Lactation.

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

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Causes serious eye irritation.

Causes skin irritation.

May cause harm to breast-fed children.

Causes damage to organs through prolonged or repeated exposure:

nervous system |

respiratory system |

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not breathe dust/fume/gas/mist/vapors/spray.

Avoid contact during pregnancy/while nursing.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

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.

Disposal:

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

8% of the mixture consists of ingredients of unknown acute oral toxicity.

8% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|------------|------------------------|
| MANGANESE DIOXIDE | 1313-13-9 | 30 - 50 Trade Secret * |
| HYDROGENATED TERPHENYL | 61788-32-7 | 30 - 45 |
| PARTIALLY HYDROGENATED POLYPHENYLS | 68956-74-1 | <= 10 |
| ALUMINUM OXIDE | 1344-28-1 | <= 5 |
| TERPHENYL | 26140-60-3 | 1 - 5 |
| CARBON BLACK | 1333-86-4 | 0.1 - 3 Trade Secret * |
| IRON OXIDE (FE ₂ O ₃) | 1309-37-1 | <= 3 |
| QUARTZ SILICA | 14808-60-7 | 0.1 - 3 Trade Secret * |
| WATER | 7732-18-5 | 0.1 - 3 |
| FERBAM | 14484-64-1 | 0.1 - 1 Trade Secret * |
| SODIUM HYDROXIDE | 1310-73-2 | <= 1 Trade Secret * |

| | | |
|------|-----------|---------|
| LEAD | 7439-92-1 | <= 0.06 |
|------|-----------|---------|

*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:

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

Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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 ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Hydrocarbons
Carbon monoxide
Carbon dioxide
Oxides of Nitrogen
Oxides of Lead
Oxides of Sulfur

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

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. 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. 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. 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. Place in a closed 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**

Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids.

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 |
|--------------------------------|------------|--------|---|--------------------------------|
| IRON OXIDE (FE2O3) | 1309-37-1 | ACGIH | TWA(respirable fraction):5 mg/m3 | A4: Not class. as human carcin |
| IRON OXIDE (FE2O3) | 1309-37-1 | OSHA | TWA(as fume):10 mg/m3 | |
| SODIUM HYDROXIDE | 1310-73-2 | ACGIH | CEIL:2 mg/m3 | |
| SODIUM HYDROXIDE | 1310-73-2 | OSHA | TWA:2 mg/m3 | |
| MANGANESE COMPOUNDS | 1313-13-9 | OSHA | CEIL(as Mn):5 mg/m3 | |
| MANGANESE, INORGANIC COMPOUNDS | 1313-13-9 | ACGIH | TWA(as Mn, respirable fraction):0.02 mg/m3;TWA(as Mn, inhalable fraction):0.1 mg/m3 | A4: Not class. as human carcin |
| 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 | |
| ALUMINUM OXIDE | 1344-28-1 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| Aluminum, insoluble compounds | 1344-28-1 | ACGIH | TWA(respirable fraction):1 mg/m3 | A4: Not class. as human carcin |
| FERBAM | 14484-64-1 | ACGIH | TWA(inhalable fraction):5 mg/m3 | A4: Not class. as human carcin |
| FERBAM | 14484-64-1 | OSHA | TWA(as total dust):15 mg/m3 | |
| QUARTZ SILICA | 14808-60-7 | ACGIH | TWA(respirable | A2: Suspected human |

| | | | | |
|------------------------|------------|-------|---|------------------------------|
| | | | fraction):0.025 mg/m3 | carcin. |
| QUARTZ SILICA | 14808-60-7 | OSHA | TWA Table Z-1(respirable):0.05 mg/m3;TWA Table Z-3(respirable):0.1 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.) | |
| TERPHENYL | 26140-60-3 | ACGIH | CEIL:5 mg/m3 | |
| TERPHENYL | 26140-60-3 | OSHA | CEIL:9 mg/m3(1 ppm) | |
| HYDROGENATED TERPHENYL | 61788-32-7 | ACGIH | TWA:0.5 ppm | |
| LEAD | 7439-92-1 | ACGIH | TWA(as Pb):0.05 mg/m3 | A3: Confirmed animal carcin. |
| LEAD | 7439-92-1 | OSHA | TWA:0.05 mg/m3 | 29 CFR 1910.1025 |

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.

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: 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 | Liquid |
| Color | Black |
| Odor | Slight Odor |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point | <i>Not Applicable</i> |
| Boiling Point | <i>No Data Available</i> |
| Flash Point | >=200 °F [<i>Test Method: Closed Cup</i>] |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | <i>No Data Available</i> |
| Vapor Density | >=1 [<i>Ref Std: AIR=1</i>] |
| Density | 1.59 g/ml |
| Specific Gravity | 1.59 [<i>Ref Std: WATER=1</i>] |
| 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 | <i>No Data Available</i> |
| Volatile Organic Compounds | 0.2 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] |
| VOC Less H2O & Exempt Solvents | 0.2 g/l [<i>Test Method: calculated SCAQMD rule 443.1</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 polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Reducing agents

Strong acids

10.6. Hazardous decomposition products**Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not 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:

May be harmful in contact with skin.

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:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

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.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which may interfere with lactation or be harmful to breastfed children.

Carcinogenicity:

| Ingredient | CAS No. | Class Description | Regulation |
|-------------------------|------------|--------------------------------|---|
| SILICA, CRYSTAL AIRRESP | 14808-60-7 | Known human carcinogen | National Toxicology Program Carcinogens |
| CARBON BLACK | 1333-86-4 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| LEAD | 7439-92-1 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |
| LEAD | 7439-92-1 | Anticipated human carcinogen | National Toxicology Program Carcinogens |
| QUARTZ SILICA | 14808-60-7 | Grp. 1: Carcinogenic to humans | International Agency for Research on Cancer |

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 ATE2,000 - 5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE2,000 - 5,000 mg/kg |
| MANGANESE DIOXIDE | Dermal | Rat | LD50 2,000 mg/kg |
| MANGANESE DIOXIDE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 1.5 mg/l |
| MANGANESE DIOXIDE | Ingestion | Rat | LD50 > 2,197 mg/kg |
| HYDROGENATED TERPHENYL | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| HYDROGENATED TERPHENYL | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 4.7 mg/l |
| HYDROGENATED TERPHENYL | Ingestion | Rat | LD50 > 10,000 mg/kg |
| TERPHENYL | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| TERPHENYL | Inhalation-Dust/Mist (4 hours) | Rat | LD50 > 3.8 mg/l |
| TERPHENYL | Ingestion | Rat | LD50 2,304 mg/kg |
| ALUMINUM OXIDE | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| ALUMINUM OXIDE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 2.3 mg/l |
| ALUMINUM OXIDE | Ingestion | Rat | LD50 > 5,000 mg/kg |
| QUARTZ SILICA | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| QUARTZ SILICA | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| IRON OXIDE (FE2O3) | Dermal | Not available | LD50 3,100 mg/kg |
| IRON OXIDE (FE2O3) | Ingestion | Not available | LD50 3,700 mg/kg |
| CARBON BLACK | Dermal | Rabbit | LD50 > 3,000 mg/kg |
| CARBON BLACK | Ingestion | Rat | LD50 > 8,000 mg/kg |
| FERBAM | Dermal | Rabbit | LD50 > 4,000 mg/kg |
| FERBAM | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.4 mg/l |
| FERBAM | Ingestion | Rat | LD50 1,130 mg/kg |
| LEAD | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------------------------|------------------------|---------------------------|
| MANGANESE DIOXIDE | Rabbit | No significant irritation |
| HYDROGENATED TERPHENYL | Rabbit | No significant irritation |
| TERPHENYL | Rabbit | No significant irritation |
| ALUMINUM OXIDE | Rabbit | No significant irritation |
| IRON OXIDE (FE2O3) | Rabbit | No significant irritation |
| QUARTZ SILICA | Professional judgement | No significant irritation |
| CARBON BLACK | Rabbit | No significant irritation |
| SODIUM HYDROXIDE | Rabbit | Corrosive |
| FERBAM | Rabbit | No significant irritation |
| LEAD | similar compounds | No significant irritation |

Serious Eye Damage/Irritation

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

| | | |
|------------------------|-------------------|---------------------------|
| MANGANESE DIOXIDE | Rabbit | Mild irritant |
| HYDROGENATED TERPHENYL | Rabbit | No significant irritation |
| TERPHENYL | Rabbit | No significant irritation |
| ALUMINUM OXIDE | Rabbit | No significant irritation |
| IRON OXIDE (FE2O3) | Rabbit | No significant irritation |
| CARBON BLACK | Rabbit | No significant irritation |
| SODIUM HYDROXIDE | Rabbit | Corrosive |
| FERBAM | Rabbit | Severe irritant |
| LEAD | similar compounds | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|------------------------|------------|----------------|
| MANGANESE DIOXIDE | Mouse | Not classified |
| HYDROGENATED TERPHENYL | Human | Not classified |
| IRON OXIDE (FE2O3) | Human | Not classified |
| SODIUM HYDROXIDE | Human | Not classified |
| FERBAM | Guinea pig | Not classified |

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 |
|------------------------|----------|--|
| MANGANESE DIOXIDE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| MANGANESE DIOXIDE | In vivo | Some positive data exist, but the data are not sufficient for classification |
| HYDROGENATED TERPHENYL | In Vitro | Not mutagenic |
| HYDROGENATED TERPHENYL | In vivo | Not mutagenic |
| TERPHENYL | In Vitro | Not mutagenic |
| TERPHENYL | In vivo | Not mutagenic |
| ALUMINUM OXIDE | In Vitro | Not mutagenic |
| IRON OXIDE (FE2O3) | In Vitro | Not mutagenic |
| QUARTZ SILICA | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| QUARTZ SILICA | 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 |
| SODIUM HYDROXIDE | In Vitro | Not mutagenic |
| LEAD | In vivo | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|--------------------|---------------|---------------------|--|
| ALUMINUM OXIDE | Inhalation | Rat | Not carcinogenic |
| IRON OXIDE (FE2O3) | Inhalation | Human | Some positive data exist, but the data are not sufficient for classification |
| QUARTZ SILICA | Inhalation | Human and animal | Carcinogenic |
| CARBON BLACK | Dermal | Mouse | Not carcinogenic |
| CARBON BLACK | Ingestion | Mouse | Not carcinogenic |
| CARBON BLACK | Inhalation | Rat | Carcinogenic |
| FERBAM | Ingestion | Rat | Not carcinogenic |
| LEAD | Not Specified | official classifica | Carcinogenic |

tion

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------|---------------|--|---------|----------------------------|----------------------------|
| MANGANESE DIOXIDE | Inhalation | Not classified for female reproduction | Rat | NOAEL 20 mg/m ³ | 2 generation |
| MANGANESE DIOXIDE | Inhalation | Not classified for male reproduction | Rabbit | LOAEL 250 mg/kg | 1 days |
| MANGANESE DIOXIDE | Ingestion | Not classified for development | Rat | LOAEL 354 mg/kg/day | prematuring into lactation |
| MANGANESE DIOXIDE | Inhalation | Not classified for development | Rat | LOAEL 61 mg/m ³ | gestation into lactation |
| HYDROGENATED TERPHENYL | Ingestion | Not classified for female reproduction | Rat | NOAEL 81 mg/kg/day | 2 generation |
| HYDROGENATED TERPHENYL | Ingestion | Not classified for male reproduction | Rat | NOAEL 62 mg/kg/day | 2 generation |
| HYDROGENATED TERPHENYL | Ingestion | Not classified for development | Rat | NOAEL 500 mg/kg/day | during organogenesis |
| FERBAM | Ingestion | Not classified for female reproduction | Rat | NOAEL 25 mg/kg/day | 3 generation |
| FERBAM | Ingestion | Not classified for male reproduction | Rat | NOAEL 25 mg/kg/day | 3 generation |
| FERBAM | Ingestion | Not classified for development | Rat | NOAEL 11 mg/kg/day | during organogenesis |
| LEAD | Not Specified | Toxic to female reproduction | Human | LOAEL 10 ug/dl blood | |
| LEAD | Not Specified | Toxic to male reproduction | Human | LOAEL 37 ug/dl blood | |
| LEAD | Not Specified | Toxic to development | Human | NOAEL Not available | |

Lactation

| Name | Route | Species | Value |
|--------|-----------|---------|------------------------------------|
| FERBAM | Ingestion | Rat | Causes effects on or via lactation |

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

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------|------------|------------------------|----------------------------------|---------|----------------------|------------------------|
| SODIUM HYDROXIDE | Inhalation | respiratory irritation | May cause respiratory irritation | Human | NOAEL Not available | |
| LEAD | Ingestion | nervous system | May cause damage to organs | Human | LOAEL 90 ug/dl blood | poisoning and/or abuse |
| LEAD | Ingestion | heart | Not classified | Human | NOAEL Not available | poisoning and/or abuse |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------|------------|----------------------|--|---------|-----------------------------|-----------------------|
| MANGANESE DIOXIDE | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Monkey | LOAEL 1.1 mg/m ³ | 10 months |
| MANGANESE DIOXIDE | Inhalation | nervous system | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| HYDROGENATED TERPHENYL | Dermal | skin | Not classified | Rabbit | NOAEL 500 mg/kg/day | 3 weeks |
| HYDROGENATED TERPHENYL | Dermal | hematopoietic system | Not classified | Rabbit | NOAEL 2,000 | 3 weeks |

| | | | | | mg/kg/day | |
|------------------------|------------|--|--|-------|----------------------|------------------------|
| HYDROGENATED TERPHENYL | Inhalation | liver hematopoietic system eyes | Not classified | Rat | NOAEL 0.5 mg/l | 13 weeks |
| HYDROGENATED TERPHENYL | Ingestion | hematopoietic system kidney and/or bladder liver eyes respiratory system | Not classified | Rat | NOAEL 120 mg/kg/day | 14 weeks |
| ALUMINUM OXIDE | Inhalation | pneumoconiosis | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| ALUMINUM OXIDE | Inhalation | pulmonary fibrosis | Not classified | Human | NOAEL Not available | occupational exposure |
| IRON OXIDE (FE2O3) | Inhalation | pulmonary fibrosis pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| QUARTZ SILICA | Inhalation | silicosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| CARBON BLACK | Inhalation | pneumoconiosis | Not classified | Human | NOAEL Not available | occupational exposure |
| LEAD | Inhalation | kidney and/or bladder | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 60 ug/dl blood | occupational exposure |
| LEAD | Inhalation | hematopoietic system | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 50 ug/dl blood | occupational exposure |
| LEAD | Inhalation | nervous system | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 40 ug/dl blood | occupational exposure |
| LEAD | Inhalation | gastrointestinal tract | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| LEAD | Inhalation | heart endocrine system immune system vascular system | Not classified | Human | NOAEL Not available | occupational exposure |
| LEAD | Ingestion | bone, teeth, nails, and/or hair | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 20 ug/dl blood | 3 months |
| LEAD | Ingestion | eyes | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 0.5 mg/kg/day | 20 days |
| LEAD | Ingestion | hematopoietic system kidney and/or bladder | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 40 ug/dl blood | environmental exposure |
| LEAD | Ingestion | nervous system | May cause damage to organs though prolonged or repeated exposure | Human | LOAEL 11 ug/dl blood | environmental exposure |
| LEAD | Ingestion | auditory system heart endocrine system vascular system | Not classified | Human | NOAEL Not available | environmental exposure |

Aspiration Hazard

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

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

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.

Dispose of waste product in a permitted industrial waste 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): D008 (Lead)

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

Not applicable

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> |
|--|------------------|----------------------|
| MANGANESE DIOXIDE (MANGANESE COMPOUNDS) | 1313-13-9 | Trade Secret 30 - 50 |
| ALUMINUM OXIDE | 1344-28-1 | <= 5 |
| ALUMINUM OXIDE (ALUMINUM OXIDE (FIBROUS FORMS ONLY)) | 1344-28-1 | <= 5 |

This material contains a chemical which requires export notification under TSCA Section 12[b]:

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:** 1 **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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|------------------------|-----------|-------------------------|----------|
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| Issue Date: | 07/23/21 | Supersedes Date: | 03/08/19 |

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