

Version: 6.0 Revision Date: 04/22/2019

This is a kit that contains the following components: DURAL 452 GEL PART A DURAL 452 GEL 1:1 PART B



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SAFETY DATA SHEET

1. Identification

Product identifier: DURAL 452 GEL PART A Product Code: 002DG 02

Recommended use and restriction on use

Recommended use: Sealant Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY 19218 REDWOOD ROAD CLEVELAND OH 44110 US

Contact person: Telephone: Emergency telephone number: EH&S Department 216-531-9222 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

| Skin Corrosion/Irritation | Category 2 |
|-----------------------------------|-------------|
| Serious Eye Damage/Eye Irritation | Category 2A |
| Skin sensitizer | Category 1 |
| Carcinogenicity | Category 1A |

Unknown toxicity - Health

| Acute toxicity, oral | 9.27 % |
|--|---------|
| Acute toxicity, dermal | 9.52 % |
| Acute toxicity, inhalation, vapor | 97.45 % |
| Acute toxicity, inhalation, dust or mist | 97.05 % |

Environmental Hazards

| Acute hazards to the aquatic | Category 2 |
|---|------------|
| environment | Cotogony |
| Chronic hazards to the aquatic environment | Category 2 |

Unknown toxicity - Environment

| Acute hazards to the aquatic | 14.86 % |
|------------------------------|---------|
| environment | |



Chronic hazards to the aquatic 13.01 % environment

Label Elements

Hazard Symbol: Signal Word: Danger Hazard Statement: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause cancer. Toxic to aquatic life with long lasting effects. Precautionary **Statements** Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment. **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 water/... If skin irritation or rash occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Wash contaminated clothing before reuse. Collect spillage. Storage: Store locked up. Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Hazard(s) not otherwise None. classified (HNOC):

3. Composition/information on ingredients

Mixtures



| Chemical Identity | CAS number | Content in percent (%)* | |
|--------------------------------------|------------|-------------------------|--|
| Bisphenol A Polyglycidyl Ether Resin | 25068-38-6 | 50 - <100% | |
| Neopentyl glycol diglycidyl ether | 17557-23-2 | 1 - <5% | |
| Titanium dioxide | 13463-67-7 | 1 - <5% | |
| Epichlorohydrin polymer | 25085-99-8 | 1 - <2.5% | |
| Polyethylene | 9002-88-4 | 0.1 - <1% | |
| o-Cresyl glycidyl ether | 2210-79-9 | 0.1 - <1% | |
| Aluminum hydroxide | 21645-51-2 | 0.1 - <1% | |
| Amorphous silica | 7631-86-9 | 0.1 - <1% | |
| Carbon Black | 1333-86-4 | 0.1 - <1% | |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

| 4. First-aid measures | | | |
|--|--|--|--|
| Description of necessary first-aid measures | | | |
| Inhalation: | Move to fresh air. | | |
| Skin Contact: | Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention. | | |
| Eye contact: | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention. | | |
| Ingestion: | Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. | | |
| Personal Protection for First- aid Responders: | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. | | |
| Most important symptoms/effe | cts, acute and delayed | | |
| Symptoms: | Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. | | |
| Hazards: | No data available. | | |
| Indication of immediate medical attention and special treatment needed | | | |
| Treatment: | Symptoms may be delayed. | | |
| 5. Fire-fighting measures | | | |
| General Fire Hazards: | No unusual fire or explosion hazards noted. | | |



Suitable (and unsuitable) extinguishing media

| Suitable extinguishing media: | Use fire-extinguishing media appropriate for surrounding materials. | | |
|---|---|--|--|
| Unsuitable extinguishing media: | Do not use water jet as an extinguisher, as this will spread the fire. | | |
| Specific hazards arising from the chemical: | During fire, gases hazardous to health may be formed. | | |
| Special protective equipment and precautions for firefighters | | | |
| Special fire fighting procedures: | No data available. | | |
| Special protective equipment for fire-fighters: | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. | | |

| Personal precautions, protective equipment and emergency procedures: | See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. |
|--|--|
| Accidental release measures: | In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. |
| Methods and material for containment and cleaning up: | Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. |
| Environmental Precautions: | Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment. |
| 7. Handling and storage | |
| Handling | |
| Technical measures (e.g. Local and general ventilation): | Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required. |
| | |
| Safe handling advice: | Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Avoid contact with skin. Avoid contact with eyes, skin, and clothing. |



| Hygiene measures: | Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace. |
|---------------------------|--|
| Storage | |
| Safe storage conditions: | Store locked up. |
| Safe packaging materials: | No data available. |

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

| Chemical Identity | Туре | Exposure Limit Values | Source |
|--|------|---|--|
| Titanium dioxide | TWA | 10 mg/m3 | US. ACGIH Threshold Limit Values (2011) |
| Titanium dioxide - Total dust. | PEL | 15 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Titanium dioxide - Respirable fraction. | TWA | 15 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| Titanium dioxide - Total dust. | TWA | 15 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| Titanium dioxide - Respirable fraction. | TWA | 5 mg/m3 | US. ÓSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| Titanium dioxide - Total dust. | TWA | 50 millions of particles per cubic foot of air | US. ÓSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| Polyethylene - Inhalable particles. | TWA | 10 mg/m3 | US. ACGIH Threshold Limit Values (03 2015) |
| Polyethylene - Respirable particles. | TWA | 3 mg/m3 | US. ACGIH Threshold Limit Values (03 2015) |
| Polyethylene - Respirable fraction. | PEL | 5 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Polyethylene - Total dust. | PEL | 15 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| | TWA | 15 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| | TWA | 50 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| Polyethylene - Respirable fraction. | TWA | 5 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| | TWA | 15 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| Aluminum hydroxide - Respirable fraction. | TWA | 1 mg/m3 | US. ACGIH Threshold Limit Values (2011) |
| | TWA | 5 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| Aluminum hydroxide - Total dust. | TWA | 15 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| | TWA | 50 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |
| Aluminum hydroxide - Respirable fraction. | TWA | 15 millions of particles per | US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016) |



| | | cubic foot of | |
|--------------------------|-----|----------------|---|
| | | air | |
| Amorphous silica | TWA | 20 millions of | US. OSHA Table Z-3 (29 CFR 1910.1000) |
| | | particles per | (2000) |
| | | cubic foot of | |
| | | air | |
| | TWA | 0.8 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) |
| | | | (2000) |
| Carbon Black - Inhalable | TWA | 3 mg/m3 | US. ACGIH Threshold Limit Values (2011) |
| fraction. | | | |
| Carbon Black | PEL | 3.5 mg/m3 | US. OSHA Table Z-1 Limits for Air |
| | | - | Contaminants (29 CFR 1910.1000) (02 2006) |

| Chemical name | Туре | Exposure Limit Values | Source |
|---|------|-----------------------|--|
| Titanium dioxide - Total dust. | TWA | 10 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Titanium dioxide - Respirable fraction. | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Titanium dioxide | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Titanium dioxide - Total dust. | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Heavy aromatic naphtha - Non-aerosol as total hydrocarbon vapor | TWA | 200 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Heavy aromatic naphtha - Non-aerosol as total hydrocarbon vapor | TWA | 200 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Heavy aromatic naphtha | TWA | 525 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Carbon Black - Inhalable | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011) |
| Carbon Black - Inhalable fraction. | TWA | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Carbon Black | TWA | 3.5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |



| Chemical name | Туре | Exposure Limit Values | Source |
|--|------|-----------------------|--|
| Wollastonite - fibers, total dust | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Wollastonite - Fiber. | TWA | 5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Titanium dioxide - Total dust. | TWA | 10 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Titanium dioxide - Respirable fraction. | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Titanium dioxide | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Titanium dioxide - Total dust. | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Polyethylene - Respirable fraction. | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Polyethylene - Total dust. | TWA | 10 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Polyethylene - Inhalable fraction. | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Polyethylene - Respirable fraction. | TWA | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Polyethylene - Total dust. | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Aluminum hydroxide - Respirable. | TWA | 1 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Aluminum hydroxide - Respirable fraction. | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Aluminum hydroxide - Total dust. | TWA | 10 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Aluminum hydroxide - Respirable fraction. | TWA | 1 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Aluminum hydroxide - Inhalable fraction. | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Aluminum hydroxide - Respirable fraction. | TWA | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Aluminum hydroxide - Total dust. | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Amorphous silica - Total | TWA | 4 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Amorphous silica - Respirable. | TWA | 1.5 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Amorphous silica - | TWA | 6 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - |



| Respirable dust. | | | | Regulation Respecting the Quality of the Work Environment) (09 2017) |
|---|------|---------|-------------|--|
| Carbon Black - Inhalable | TWA | | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011) |
| Carbon Black - Inhalable fraction. | TWA | | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Carbon Black | TWA | | 3.5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction. | TWA | | 0.025 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction. | TWA | | 0.10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. | TWA | | 0.1 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Stoddard solvent (Mineral Spirits) | STEL | | 580 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | | 290 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Stoddard solvent (Mineral Spirits) | TWA | 100 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Stoddard solvent (Mineral Spirits) | TWA | 100 ppm | 525 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| 1-Methoxy-2-propanol acetate | TWA | 50 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | STEL | 75 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 1-Methoxy-2-propanol acetate | TWA | 50 ppm | 270 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | 123 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | 123 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.



Individual protection measures, such as personal protective equipment

| General information: | Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
|-------------------------------------|--|
| Eye/face protection: | Wear safety glasses with side shields (or goggles). |
| Skin Protection Hand Protection: | Use suitable protective gloves if risk of skin contact. |
| Other: | Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information. |
| Respiratory Protection: | In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor. |
| Hygiene measures: | Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace. |

9. Physical and chemical properties

Appearance

| Appearance | |
|--|---|
| Physical state: | liquid |
| Form: | liquid |
| Color: | Gray |
| Odor: | Mild |
| Odor threshold: | No data available. |
| pH: | No data available. |
| Melting point/freezing point: | No data available. |
| Initial boiling point and boiling range: | No data available. |
| Flash Point: | > 93 °C > 200 °F(Setaflash Closed Cup) |
| Evaporation rate: | Slower than Ether |
| Flammability (solid, gas): | No |
| Upper/lower limit on flammability or explosive | <i>v</i> e limits |
| Flammability limit - upper (%): | No data available. |
| Flammability limit - lower (%): | No data available. |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | No data available. |
| Vapor density: | Vapors are heavier than air and may travel along the floor and in the bottom of containers. |
| Relative density: | 1.13 |



| Solubility(ies) | |
|--|--------------------|
| Solubility in water: | Insoluble in water |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |
| Viscosity: | No data available. |

10. Stability and reactivity

| Reactivity: | No data available. |
|--|---|
| Chemical Stability: | Material is stable under normal conditions. |
| Possibility of hazardous reactions: | No data available. |
| Conditions to avoid: | Avoid heat or contamination. |
| Incompatible Materials: | No data available. |
| Hazardous Decomposition Products: | Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. |

11. Toxicological information

| Information on likely routes of ex Inhalation: | posure In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes. |
|---|---|
| Skin Contact: | May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. |
| Eye contact: | Causes serious eye irritation. |
| Ingestion: | May be harmful if swallowed. |
| Symptoms related to the physica | I, chemical and toxicological characteristics |
| Inhalation: | No data available. |
| Skin Contact: | No data available. |
| Eye contact: | No data available. |

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:

Not classified for acute toxicity based on available data.



| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | LD 50 (Rat): > 2,000 mg/kg |
|--|--|
| Polyethylene | LD 50 (Rat): 5,001 mg/kg |
| o-Cresyl glycidyl ether | LD 50 (Rat): > 5,000 mg/kg |
| Aluminum hydroxide | LD 50 (Rat): > 2,000 mg/kg |
| Amorphous silica | LD 50 (Rat): > 5,000 mg/kg |
| Carbon Black | LD 50 (Rat): > 8,000 mg/kg |
| Dermal Product: | Not classified for acute toxicity based on available data. |
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | LD 50 (Rat): > 2,000 mg/kg |
| Polyethylene | LD 50 (Rabbit): 5,001 mg/kg |
| o-Cresyl glycidyl ether | LD 50 (Rat): > 2,000 mg/kg |
| Amorphous silica | LD 50 (Rabbit): > 2,000 mg/kg |
| Inhalation Product: | Not classified for acute toxicity based on available data. |
| Specified substance(s): Polyethylene | LC 50 (Rabbit): 20.1 mg/l |
| o-Cresyl glycidyl ether | LC 50 (Rat): 6,090 mg/m3 |
| Aluminum hydroxide | LC 50 (Rat): 7.6 mg/l |
| Amorphous silica | LC 50 (Rat): > 2.08 mg/l |

| Repeated dose toxicity | |
|------------------------|--|
| Product: | |

No data available.



| Skin Corrosion/Irritation Product: | No data available. |
|--|--|
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | Irritating. in vivo (Rabbit): Slightly irritating |
| o-Cresyl glycidyl ether | in vivo (Rabbit): Moderately irritating |
| Aluminum hydroxide | in vivo (Rabbit): Not classified as an Irritant |
| Amorphous silica | in vivo (Rabbit): Not irritant |
| Carbon Black | in vivo (Rabbit): Not irritant |

Serious Eye Damage/Eye Irritation

| Product: Specified substance(s): | No data available. |
|--|---|
| Bisphenol A Polyglycidyl Ether Resin | Strongly irritating. Rabbit, 24 hrs: Slightly irritating |
| Aluminum hydroxide | Rabbit, 24 hrs: Not irritating |
| Amorphous silica | Rabbit, 24 hrs: Not irritating |
| Carbon Black | Rabbit, 24 - 72 hrs: Not irritating |

Respiratory or Skin Sensitization Product:

No data available.

Carcinogenicity Product:

Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Carbon Black Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens: Carbon Black Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): No carcinogenic components identified



Germ Cell Mutagenicity

| In vitro Product: | No data available. |
|---|--|
| In vivo Product: | No data available. |
| Reproductive toxicity Product: | No data available. |
| Specific Target Organ Toxicit Product: | y - Single Exposure No data available. |
| Specific Target Organ Toxicity - Repeated Exposure Product: No data available. | |
| Aspiration Hazard Product: | No data available. |
| Other effects: | No data available. |

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

| Fish Product: | No data available. |
|--|--|
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | LC 50 (Oncorhynchus mykiss, 96 h): 2 mg/l Experimental result, Key study |
| Aquatic Invertebrates Product: | No data available. |
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | EC 50 (Daphnia magna, 48 h): 1.8 mg/l Experimental result, Key study |
| Chronic hazards to the aquati | c environment: |

Fish Product:



| Aquatic Invertebrates Product: | No data available. |
|---|---|
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | NOEC (Daphnia magna, 21 d): 0.3 mg/l Experimental result, Key study |
| Toxicity to Aquatic Plants Product: | No data available. |
| Persistence and Degradability | |
| Biodegradation Product: | No data available. |
| BOD/COD Ratio Product: | No data available. |
| Bioaccumulative potential Bioconcentration Factor (BC Product: | CF) No data available. |
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | Bioconcentration Factor (BCF): 31 Aquatic sediment QSAR, Key study |
| Partition Coefficient n-octanol / v Product: | vater (log Kow) No data available. |
| Specified substance(s): Bisphenol A Polyglycidyl Ether Resin | Log Kow: 2.64 - 3.78 25 °C Yes Experimental result, Key study |
| Mobility in soil: | No data available. |
| Other adverse effects: | Toxic to aquatic life with long lasting effects. |
| 13. Disposal considerations | |
| Disposal methods: | Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| Contaminated Packaging: | No data available. |
| | |

| 14. Transport information | า |
|---------------------------|---|
|---------------------------|---|



TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity

OSHA hazard(s)

Crystalline Silica (Quartz)/ Silica Sand kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards Delayed (Chronic) Health Hazard Skin Corrosion or Irritation Serious eye damage or eye irritation Respiratory or Skin Sensitization Carcinogenicity

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.



SARA 311/312 Hazardous Chemical

| Chemical Identity | Threshold Planning Quantity |
|-----------------------------|-----------------------------|
| Bisphenol A Polyglycidyl | 10000 lbs |
| Ether Resin | |
| Neopentyl glycol diglycidyl | 10000 lbs |
| ether | |
| Titanium dioxide | 10000 lbs |
| Epichlorohydrin polymer | 10000 lbs |
| Polyethylene | 10000 lbs |
| o-Cresyl glycidyl ether | 10000 lbs |
| Aluminum hydroxide | 10000 lbs |
| Amorphous silica | 10000 lbs |
| Carbon Black | 10000 lbs |

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING Cancer - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Titanium dioxide Carbon Black

US. Massachusetts RTK - Substance List

Chemical Identity

Crystalline Silica (Quartz)/ Silica Sand

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u> Titanium dioxide Carbon Black

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable



Rotterdam convention

Not applicable

Kyoto protocol Not applicable

VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of: 91 g/l

Regulatory VOC (less water and
exempt solvent): < 5 g/l</th>VOC Method 310: 0.04 %



| Inventory Status: Canada DSL Inventory List: | All components in this product are listed on or exempt from the Inventory. |
|---|--|
| EINECS, ELINCS or NLP: | One or more components in this product are not listed on or exempt from the Inventory. |
| Japan (ENCS) List: | One or more components in this product are not listed on or exempt from the Inventory. |
| Canada NDSL Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |
| US TSCA Inventory: | All components in this product are listed on or exempt from the Inventory. |
| Japan ISHL Listing: | One or more components in this product are not listed on or exempt from the Inventory. |
| Japan Pharmacopoeia Listing: | One or more components in this product are not listed on or exempt from the Inventory. |
| Australia AICS: | One or more components in this product are not listed on or exempt from the Inventory. |
| Ontario Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |
| China Inv. Existing Chemical Substances: | One or more components in this product are not listed on or exempt from the Inventory. |
| Korea Existing Chemicals Inv. (KECI): | One or more components in this product are not listed on or exempt from the Inventory. |
| Mexico INSQ: | One or more components in this product are not listed on or exempt from the Inventory. |
| New Zealand Inventory of Chemicals: | One or more components in this product are not listed on or exempt from the Inventory. |
| Philippines PICCS: | One or more components in this product are not listed on or exempt from the Inventory. |
| Taiwan Chemical Substance Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |

16.Other information, including date of preparation or last revision



| Revision Date: | 04/22/2019 |
|----------------------|---|
| Version #: | 6.0 |
| Further Information: | No data available. |
| Disclaimer: | For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. |



Version: 6.0 Revision Date: 04/22/2019

SAFETY DATA SHEET

1. Identification

Product identifier: DURAL 452 GEL 1:1 PART B Product Code: 002DG 02

Recommended use and restriction on use

Recommended use: Curative Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY 19218 REDWOOD ROAD CLEVELAND OH 44110 US

Contact person: Telephone: Emergency telephone number: EH&S Department 216-531-9222 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

| Acute toxicity (Oral) | Category 4 |
|-------------------------------------|------------|
| Acute toxicity (Inhalation - vapor) | Category 4 |
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Toxic to reproduction | Category 2 |

Unknown toxicity - Health

| Acute toxicity, oral | 14.53 % |
|--|---------|
| Acute toxicity, dermal | 37.54 % |
| Acute toxicity, inhalation, vapor | 90.06 % |
| Acute toxicity, inhalation, dust or mist | 88.18 % |

Environmental Hazards

Acute hazards to the aquatic environment

Category 2

Unknown toxicity - Environment

| Acute hazards to the aquatic environment | 67.09 % |
|--|---------|
| Chronic hazards to the aquatic environment | 100 % |



Label Elements

Hazard Symbol:

| Signal Word: | Danger |
|--|--|
| Hazard Statement: | Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye damage. Suspected of damaging fertility or the unborn child. Toxic to aquatic life. |
| Precautionary Statements | |
| Prevention: | Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment. |
| Response: | IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water/ If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTRE/doctor/ if you feel unwell. Rinse mouth. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Take off contaminated clothing. |
| Storage: | Store locked up. |
| Disposal: | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| Hazard(s) not otherwise classified (HNOC): | None. |

3. Composition/information on ingredients

Mixtures

| Chemical Identity | |
|-------------------|--|
|-------------------|--|



| 1,2-Cyclohexanediamine | 694-83-7 | 10 - <25% |
|----------------------------------|------------|-----------|
| 4-Nonylphenol | 84852-15-3 | 10 - <20% |
| Benzyl alcohol | 100-51-6 | 5 - <10% |
| 4-tert-Butylphenol | 98-54-4 | 3 - <5% |
| m-Xylenediamine | 1477-55-0 | 1 - <3% |
| 1,3- Cyclohexanedimethanamine | 2579-20-6 | 1 - <3% |
| Polyethylene | 9002-88-4 | 0.1 - <1% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

| Description of necessary f | first-aid measures |
|----------------------------|--------------------|
|----------------------------|--------------------|

| Inhalation: | Move to fresh air. | |
|---|---|--|
| Skin Contact: | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention. | |
| Eye contact: | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. | |
| Ingestion: | Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. | |
| Personal Protection for First- aid Responders: | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. | |
| Most important symptoms/effe | ects, acute and delayed | |
| Symptoms: | Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing. | |
| Hazards: | No data available. | |
| Indication of immediate medic | Indication of immediate medical attention and special treatment needed | |
| Treatment: | Symptoms may be delayed. | |
| 5. Fire-fighting measures | | |
| General Fire Hazards: | No unusual fire or explosion hazards noted. | |
| Suitable (and unsuitable) extir | iguishing media | |
| Suitable extinguishing media: | Use fire-extinguishing media appropriate for surrounding materials. | |
| Unsuitable extinguishing media: | Do not use water jet as an extinguisher, as this will spread the fire. | |



| Specific hazards arising from the chemical: | During fire, gases hazardous to health may be formed. | | |
|--|--|--|--|
| Special protective equipment an | Special protective equipment and precautions for firefighters | | |
| Special fire fighting procedures: | No data available. | | |
| Special protective equipment for fire-fighters: | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. | | |
| 6. Accidental release measures | S | | |
| Personal precautions, protective equipment and emergency procedures: | See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. | | |
| Accidental release measures: | In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. | | |
| Methods and material for containment and cleaning up: | Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. | | |
| Environmental Precautions: | Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment. | | |
| 7. Handling and storage | | | |
| Handling | | | |
| Technical measures (e.g. Local and general ventilation): | Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required. | | |
| Safe handling advice: | Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.Do not taste or swallow. Wash hands thoroughly after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. | | |
| Contact avoidance measures: | No data available. | | |
| Hygiene measures: | Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. | | |
| Storage | | | |
| Safe storage conditions: | Store locked up. | | |



Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

| Chemical Identity | Туре | Exposure Limit Values | Source |
|--|---------|---|--|
| m-Xylenediamine | Ceiling | 0.1 mg/m3 | US. ACGIH Threshold Limit Values (2011) |
| Polyethylene - Inhalable particles. | TWA | 10 mg/m3 | US. ACGIH Threshold Limit Values (03 2015) |
| Polyethylene - Respirable particles. | TWA | 3 mg/m3 | US. ACGIH Threshold Limit Values (03 2015) |
| Polyethylene - Respirable fraction. | PEL | 5 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Polyethylene - Total dust. | PEL | 15 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| | TWA | 15 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| | TWA | 50 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| Polyethylene - Respirable fraction. | TWA | 5 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000) (2000) |
| | TWA | 15 millions of particles per cubic foot of air | US. ÓSHA Table Z-3 (29 CFR 1910.1000) (2000) |

None of the components have assigned exposure limits.



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| Chemical name | Туре | Exposure Limit Values | Source |
|---|---------|-----------------------|--|
| Wollastonite - fibers, total dust | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Wollastonite - Fiber. | TWA | 5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| m-Xylenediamine | CEILING | 0.1 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| m-Xylenediamine | CEV | 0.1 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| m-Xylenediamine | CEILING | 0.1 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Polyethylene - Respirable fraction. | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Polyethylene - Total dust. | TWA | 10 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013) |
| Polyethylene - Inhalable fraction. | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Polyethylene - Respirable fraction. | TWA | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Polyethylene - Total dust. | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Hexamethylenediamine | TWA | 0.5 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Hexamethylenediamine | TWA | 0.5 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Hexamethylenediamine | TWA | 0.5 ppm 2.3 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction. | TWA | 0.025 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction. | TWA | 0.10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. | TWA | 0.1 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Stoddard solvent (Mineral Spirits) | STEL | 580 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | 290 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |



| Stoddard solvent (Mineral Spirits) | TWA | 100 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
|------------------------------------|------|---------|-----------|---|
| Stoddard solvent (Mineral Spirits) | TWA | 100 ppm | 525 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Carbon Black - Inhalable | TWA | | 3 mg/m3 | Canada. British Columbia OELs. (Occupationa Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011) |
| Carbon Black - Inhalable fraction. | TWA | | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure Biological or Chemical Agents) (06 2015) |
| Carbon Black | TWA | | 3.5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| 1-Methoxy-2-propanol acetate | TWA | 50 ppm | | Canada. British Columbia OELs. (Occupationa Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | STEL | 75 ppm | | Canada. British Columbia OELs. (Occupation: Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 1-Methoxy-2-propanol acetate | TWA | 50 ppm | 270 mg/m3 | Canada. Ontario OELs. (Control of Exposure Biological or Chemical Agents) (11 2010) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | 123 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | | Canada. British Columbia OELs. (Occupationa Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | | Canada. Ontario OELs. (Control of Exposure Biological or Chemical Agents) (11 2010) |
| 1,2,4-Trimethylbenzene | TWA | 25 ppm | 123 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Wor Environment) (09 2017) |

Exposure guidelines

| - | -xpoouro guiaonnoo | | |
|---|--------------------|----------------------------------|-------------------------|
| | m-Xylenediamine | US. ACGIH Threshold Limit Values | Can be absorbed through |
| | - | | the skin. |

Appropriate Engineering
ControlsObserve good industrial hygiene practices. Observe occupational exposure
limits and minimize the risk of inhalation of vapors and mist. Mechanical
ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

| General information: | Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
|---|--|
| Eye/face protection: | Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield. |
| Skin Protection Hand Protection: Other: | Use suitable protective gloves if risk of skin contact. |
| Other: | Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, |



| | and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information. |
|-------------------------|--|
| Respiratory Protection: | In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor. |
| Hygiene measures: | Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands after handling. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. |

9. Physical and chemical properties

| Appearance | |
|--|---|
| Physical state: | liquid |
| Form: | liquid |
| Color: | Black |
| Odor: | Mild pungent |
| Odor threshold: | No data available. |
| pH: | No data available. |
| Melting point/freezing point: | No data available. |
| Initial boiling point and boiling range: | No data available. |
| Flash Point: | > 93 °C > 200 °F(Setaflash Closed Cup) |
| Evaporation rate: | Slower than Ether |
| Flammability (solid, gas): | No |
| Upper/lower limit on flammability or explosi | ve limits |
| Flammability limit - upper (%): | No data available. |
| Flammability limit - lower (%): | No data available. |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | No data available. |
| Vapor density: | Vapors are heavier than air and may travel along the floor and in the bottom of containers. |
| Relative density: | 1.007 |
| Solubility(ies) | |
| Solubility in water: | Practically Insoluble |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |
| Viscosity: | No data available. |
| | |

10. Stability and reactivity

Reactivity:

No data available.



| Products: | other toxic gases or vapors. |
|--|--|
| Hazardous Decomposition | Thermal decomposition or combustion may liberate carbon oxides and |
| Incompatible Materials: | Avoid contact with acids. |
| Conditions to avoid: | Avoid heat or contamination. |
| Possibility of hazardous reactions: | No data available. |
| Chemical Stability: | Material is stable under normal conditions. |

| Information on likely routes of e Inhalation: | xposure In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes. |
|--|--|
| Skin Contact: | May be harmful in contact with skin. Causes skin irritation. |
| Eye contact: | Causes serious eye damage. |
| Ingestion: | Harmful if swallowed. |

Symptoms related to the physical, chemical and toxicological characteristics

| Inhalation: | No data available. |
|---------------|--------------------|
| Skin Contact: | No data available. |
| Eye contact: | No data available. |
| Ingestion: | No data available. |

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

| Oral Product: | ATEmix: 1,830.59 mg/kg |
|------------------------|--|
| Dermal Product: | ATEmix: 4,177.26 mg/kg |
| Inhalation Product: | ATEmix: 11.03 mg/l ATEmix : 7.21 mg/l |

Repeated dose toxicity Product:

No data available.

Skin Corrosion/Irritation



| Product: | No data available. |
|---|--|
| Serious Eye Damage/Eye Irritation Product: | on No data available. |
| Respiratory or Skin Sensitization Product: | n No data available. |
| Carcinogenicity Product: | No data available. |
| IARC Monographs on the Evaluat No carcinogenic components | ation of Carcinogenic Risks to Humans: s identified |
| US. National Toxicology Program No carcinogenic components | |
| US. OSHA Specifically Regulate No carcinogenic components | d Substances (29 CFR 1910.1001-1050): s identified |
| Germ Cell Mutagenicity | |
| In vitro Product: | No data available. |
| In vivo Product: | No data available. |
| Reproductive toxicity Product: | Suspected of damaging fertility or the unborn child. |
| Specific Target Organ Toxicity - Product: | Single Exposure No data available. |
| Specific Target Organ Toxicity - Product: | Repeated Exposure No data available. |
| Aspiration Hazard Product: | No data available. |
| Other effects: | No data available. |

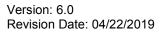
12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product:

No data available.





| Aquatic Invertebrates Product: | No data available. | |
|--|---|--|
| Chronic hazards to the aquatic environment: | | |
| Fish Product: | No data available. | |
| Aquatic Invertebrates Product: | No data available. | |
| Toxicity to Aquatic Plants Product: | No data available. | |
| Persistence and Degradability | | |
| Biodegradation Product: | No data available. | |
| BOD/COD Ratio Product: | No data available. | |
| Bioaccumulative potential Bioconcentration Factor (BC Product: | CF) No data available. | |
| Partition Coefficient n-octanol / v | vater (log Kow) | |
| Product: | No data available. | |
| Mobility in soil: | No data available. | |
| Other adverse effects: | Toxic to aquatic organisms. | |
| 13. Disposal considerations | 13. Disposal considerations | |
| Disposal methods: | Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. | |
| Contaminated Packaging: | No data available. | |
| 14. Transport information | | |

TDG:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol), 9, PG III

CFR / DOT:

UN3082, Environmentally hazardous substance, liquid, n.o.s. (Nonylphenol), 9, PG III



IMDG:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol), 9, PG III, MARINE POLLUTANT

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

| 15. Regulatory information | |
|----------------------------|--|
|----------------------------|--|

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

| Chemical Identity | Reportable quantity |
|-------------------|--|
| 4-Nonylphenol | De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only. |
| Nonyl Phenol | De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only. |

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity

OSHA hazard(s)

Crystalline Silica (Quartz)/ Silica Sand kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards Delayed (Chronic) Health Hazard Acute toxicity (any route or exposure) Skin Corrosion or Irritation Serious eye damage or eye irritation Reproductive toxicity

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.



SARA 311/312 Hazardous Chemical

None present or none present in regulated quantities. hemical Identity Threshold Planning Quantity

| Chemical Identity | Threshold Planning Qu |
|--------------------------|-----------------------|
| 1,2-Cyclohexanediamine | 10000 lbs |
| 4-Nonylphenol | 10000 lbs |
| Benzyl alcohol | 10000 lbs |
| 4-tert-Butylphenol | 10000 lbs |
| m-Xylenediamine | 10000 lbs |
| 1,3- | 10000 lbs |
| Cyclohexanedimethanamine | |
| Polyethylene | 10000 lbs |

SARA 313 (TRI Reporting)

<u>Chemical Identity</u> 4-Nonylphenol Nonyl Phenol

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

 $\underline{\mathbb{M}}$

WARNING Cancer - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity m-Xylenediamine

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u> 4-Nonylphenol Benzyl alcohol m-Xylenediamine Crystalline Silica (Quartz)/ Silica Sand

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u> 4-Nonylphenol Benzyl alcohol m-Xylenediamine

US. Rhode Island RTK

Chemical Identity

m-Xylenediamine

International regulations



Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of: 91 g/l

Regulatory VOC (less water and
exempt solvent): 171 g/lVOC Method 310: 16.97 %



| Inventory Status: Australia AICS: | One or more components in this product are not listed on or exempt from the Inventory. |
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| Canada DSL Inventory List: | One or more components in this product are not listed on or exempt from the Inventory. |
| EINECS, ELINCS or NLP: | One or more components in this product are not listed on or exempt from the Inventory. |
| Japan (ENCS) List: | One or more components in this product are not listed on or exempt from the Inventory. |
| China Inv. Existing Chemical Substances: | One or more components in this product are not listed on or exempt from the Inventory. |
| Korea Existing Chemicals Inv. (KECI): | One or more components in this product are not listed on or exempt from the Inventory. |
| Canada NDSL Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |
| Philippines PICCS: | One or more components in this product are not listed on or exempt from the Inventory. |
| US TSCA Inventory: | All components in this product are listed on or exempt from the Inventory. |
| New Zealand Inventory of Chemicals: | One or more components in this product are not listed on or exempt from the Inventory. |
| Japan ISHL Listing: | One or more components in this product are not listed on or exempt from the Inventory. |
| Japan Pharmacopoeia Listing: | One or more components in this product are not listed on or exempt from the Inventory. |
| Ontario Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |
| Mexico INSQ: | One or more components in this product are not listed on or exempt from the Inventory. |
| Taiwan Chemical Substance Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |

16.Other information, including date of preparation or last revision



| Revision Date: | 04/22/2019 |
|----------------------|--|
| Version #: | 6.0 |
| Further Information: | No data available. |
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