



SAFETY DATA SHEET

1. Identification

Material name: TAMMS STRUCTURAL MORTAR (FORMERLY TAMMS SPRAY MORTAR)
Material: TR5090650

Recommended use and restriction on use

Recommended use: Cement, Portland, chemicals

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

EH&S Department

Telephone:

216-531-9222

Emergency telephone number:

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 1
Skin sensitizer	Category 1
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3 ¹
Specific Target Organ Toxicity - Repeated Exposure	Category 1 ²

Target Organs

1. Respiratory tract irritation.
2. Lung

Unknown toxicity - Health

Acute toxicity, oral	41.13 %
Acute toxicity, dermal	95.05 %
Acute toxicity, inhalation, vapor	99.96 %
Acute toxicity, inhalation, dust or mist	47.01 %

Label Elements

Hazard Symbol:

**Signal Word:**

Danger

Hazard Statement:

Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements**Prevention:**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.

Response:

IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing. Specific treatment (see supplemental first aid instructions on this label). IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF exposed or concerned: Get medical advice/attention.

Storage:

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

Disposal:

Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC):

None.

3. Composition/information on ingredients**Mixtures**

Chemical Identity	CAS number	Content in percent (%)*
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	50 - <100%



Portland cement	65997-15-1	20 - <50%
Calcium oxide	1305-78-8	1 - <5%
Fumed silica	69012-64-2	1 - <5%
Calcium sulfate	7778-18-9	0.1 - <1%
Aluminum Sulfate (Anhydrous)	10043-01-3	0.1 - <1%
Aluminum oxide	1344-28-1	0.1 - <1%
Cellulose	9004-34-6	0.1 - <1%
Calcium hydroxide	1305-62-0	0.1 - <1%
Dolomite	16389-88-1	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. 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/effects, 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. Respiratory tract irritation.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.
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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 fire-fighters

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

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: 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.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Safe handling advice: Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust. 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. Do not get in eyes. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.

Contact avoidance measures: No data available.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in 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	Type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m ³	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
	OSHA_ACT	0.025 mg/m ³	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
	TWA	0.1 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m ³	US. ACGIH Threshold Limit Values, as amended (02 2020)
Portland cement - Respirable fraction.	TWA	1 mg/m ³	US. ACGIH Threshold Limit Values, as amended (2011)
Portland cement - Total dust.	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Calcium oxide	TWA	2 mg/m ³	US. ACGIH Threshold Limit Values, as amended (2008)
	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Fumed silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
	TWA	0.8 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Fumed silica - Total dust.	TWA	15 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Fumed silica - Inhalable particles.	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values, as amended (01 2021)
Fumed silica - Respirable fraction.	TWA	5 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Fumed silica - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Fumed silica - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)



Fumed silica - Respirable particles.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)
Calcium sulfate - Total	REL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Calcium sulfate - Respirable.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Calcium sulfate - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Calcium sulfate - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Calcium sulfate - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
Calcium sulfate - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium sulfate - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium sulfate - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium sulfate - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium sulfate - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium sulfate - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Aluminum Sulfate (Anhydrous) - as Al	REL	2 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	TWA	2 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Aluminum Sulfate (Anhydrous) - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2009)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Aluminum oxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Aluminum oxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Aluminum oxide - Inhalable particles.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)
Aluminum oxide - Respirable particles.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)
Cellulose	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
Cellulose - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Cellulose - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)



Cellulose - Total dust.	TWA	15 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Cellulose - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
	TWA	5 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium hydroxide	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values, as amended (2011)
Calcium hydroxide - Total dust.	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium hydroxide - Respirable fraction.	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium hydroxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
	TWA	15 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium hydroxide - Respirable fraction.	TWA	5 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Dolomite - Inhalable particles.	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values, as amended (03 2016)
Dolomite - Respirable particles.	TWA	3 mg/m ³	US. ACGIH Threshold Limit Values, as amended (03 2016)
Dolomite - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Dolomite - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA	15 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Dolomite - Respirable fraction.	TWA	5 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)



Chemical name	Type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2017)
Portland cement - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017)
Calcium oxide	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (12 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Fumed silica - Respirable fume.	TWA	1.5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Fumed silica - Respirable fraction.	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Fumed silica - Respirable dust and/or fume.	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Fumed silica - Total fume.	TWA	4 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2021)
Calcium sulfate	TWA	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Calcium sulfate - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium sulfate - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Calcium sulfate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Aluminum Sulfate (Anhydrous) - as Al	TWA	2 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Aluminum Sulfate	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to



(Anhydrous) - Respirable fraction.			Biological or Chemical Agents), as amended (11 2010)
Aluminum Sulfate (Anhydrous) - as Al	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum Sulfate (Anhydrous) - Respirable.	TWA	1.0 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Aluminum oxide - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Aluminum oxide - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Aluminum oxide - Total dust. - as Al	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum oxide - Respirable.	TWA	1.0 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Aluminum oxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Aluminum oxide - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Aluminum oxide - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Aluminum oxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Cellulose - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cellulose - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cellulose	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Cellulose - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Calcium hydroxide	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium hydroxide	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Calcium hydroxide	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Dolomite - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)



Dolomite - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Dolomite - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Dolomite - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Dolomite - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

Appropriate Engineering Controls

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

Individual protection measures, such as personal protective equipment

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: Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection: 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. Do not get in 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**

Physical state:	solid
Form:	Powder
Color:	Gray
Odor:	Odorless
Odor threshold:	No data available.
pH:	11 - 13
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No

**Upper/lower limit on flammability or explosive 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:	No data available.
Relative density:	3.5
Solubility(ies)	
Solubility in water:	Miscible with 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 exposure**

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.
Ingestion:	May be 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: 2,198.41 mg/kg

Dermal

Product: ATEmix: 7,855.05 mg/kg

Inhalation

Product:

Specified substance(s):

Crystalline Silica (Quartz)/ Silica Sand	LC 50: > 5.0 mg/l
Calcium oxide	LC 50 (Rat): 40 mg/m ³
Fumed silica	LC 50 (Rat): > 2.08 mg/l
Calcium sulfate	LC 50 (Rat): > 3.26 mg/l
Aluminum oxide	LC 50 (Rat): 7.6 mg/l
Cellulose	LC 50 (Rabbit): 20.1 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

Calcium sulfate	NOAEL (Rat(Male), Oral, 52 - 104 Weeks): 256 mg/kg Oral Experimental result, Supporting study NOAEL (Rat(female), Oral, 52 - 104 Weeks): 284 mg/kg Oral Experimental result, Supporting study NOAEL (Rat(Male), Oral, 13 Weeks): 886 mg/kg Oral Experimental result, Supporting study LOAEL (Rat(Male), Oral, 35 - 45 d): 237 mg/kg Oral Experimental result, Key study NOAEL (Rat(Male), Oral, 35 - 45 d): 79 mg/kg Oral Experimental result, Key study
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Skin Corrosion/Irritation

Product: No data available.

**Specified substance(s):**

Calcium oxide	in vivo (Rabbit): Irritating , 24 - 72 h
Fumed silica	in vivo (Rabbit): Not irritant , 24 h
Calcium sulfate	in vivo (Rabbit): Not irritant , 72 h
Aluminum Sulfate (Anhydrous)	in vivo (Human): Slightly irritating
Aluminum oxide	in vivo (Rabbit): Not irritant , 24 - 72 h
Calcium hydroxide	in vivo (Rabbit): Irritating , 24 - 72 h

Serious Eye Damage/Eye Irritation**Product:** No data available.**Specified substance(s):**

Calcium oxide	Rabbit, 1 hrs: Irritating
Fumed silica	Rabbit, 1 hrs: Not irritant
Calcium sulfate	Rabbit, 72 hrs: Not irritant
Aluminum Sulfate (Anhydrous)	Rabbit, 1 - 3 d: Moderately irritating
Aluminum oxide	Rabbit, 24 hrs: Not irritant
Calcium hydroxide	Rabbit: Category 1

Respiratory or Skin Sensitization**Product:** No data available.**Carcinogenicity****Product:** No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
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US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline (Quartz)/ Sand	Silica Silica	Known To Be Human Carcinogen.
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**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:**

Crystalline Silica
(Quartz)/ Silica
Sand Cancer

Germ Cell Mutagenicity**In vitro**

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure: Lung

Aspiration Hazard

Product: No data available.

Other effects:

Constituents of this product may include crystalline silica which, if in inhalable form, may cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group I carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. Constituents may also contain asbestiform or non-asbestiform tremolite or other silicates as impurities, and above de minimis exposure to these impurities in inhalable form may be carcinogenic or cause other serious lung problems.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: No data available.

**Specified substance(s):**

Calcium oxide	LC 100 (Poecilia reticulata, 96 h): 560 mg/l Experimental result, Key study
Fumed silica	LC 50 (Danio rerio, 96 h): > 100 mg/l Experimental result, Supporting study
Calcium sulfate	LC 50 (Pimephales promelas, 96 h): > 1,970 mg/l Experimental result, Weight of Evidence study
Aluminum oxide	LC 50 (Pimephales promelas, 96 h): 1.16 mg/l Experimental result, Weight of Evidence study

Aquatic Invertebrates**Product:**

No data available.

Specified substance(s):

Calcium oxide	EC 50 (Daphnia magna, 48 h): > 100 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of substances (category approach), Key study
Fumed silica	EC 50 (Daphnia magna, 24 h): > 1,003 mg/l experimental result Experimental result, Key study
Calcium sulfate	EC 50 (Daphnia magna, 48 h): 1,970 mg/l
Aluminum Sulfate (Anhydrous)	EC 50 (Daphnia magna, 48 h): 4.3 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of substances (category approach), Key study
Aluminum oxide	EC 50 (Ceriodaphnia dubia, 48 h): 1.5 mg/l experimental result Experimental result, Weight of Evidence study

Chronic hazards to the aquatic environment:**Fish****Product:**

No data available.

Specified substance(s):

Calcium oxide	NOAEL (Oncorhynchus mykiss): 307 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of substances (category approach), Key study
Aluminum Sulfate (Anhydrous)	NOAEL : 24 µg/l experimental result Experimental result, Key study

Aquatic Invertebrates**Product:**

No data available.

Specified substance(s):

Aluminum Sulfate (Anhydrous)	NOAEL (Daphnia magna): 12 mg/l experimental result Experimental result, Key study
Aluminum oxide	NOAEL (Daphnia magna): 1.89 mg/l experimental result Experimental result, Weight of Evidence 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 (BCF)
Product: No data available.

Specified substance(s):
Aluminum Sulfate (Anhydrous) Salmo salar, Bioconcentration Factor (BCF): 362 Aquatic sediment
Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: No data available.

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:
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), as amended**Chemical Identity**Crystalline Silica
(Quartz)/ Silica Sand**OSHA hazard(s)**kidney effects
lung effects
immune system effects
Cancer**CERCLA Hazardous Substance List (40 CFR 302.4):****Chemical Identity**Aluminum Sulfate
(Anhydrous)**Reportable quantity**

5000 lbs.

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
Specific target organ toxicity (single or repeated exposure)**US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances**

Not regulated.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

Not regulated.

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)**Chemical Identity**Aluminum Sulfate
(Anhydrous)**Reportable quantity**

Reportable quantity: 5000 lbs.

US State Regulations**US. California Proposition 65**



WARNING

Cancer - www.P65Warnings.ca.gov

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC:

Regulatory VOC (less water and exempt solvent) : 0 g/l

VOC Method 310 : 0.00 %

**Inventory Status:**

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.
Australia Industrial Chem. Act (AIC):	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are 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.

Switzerland New Subs
Notified/Registered:

One or more components in this product are not listed on or exempt from the Inventory.

Thailand DIW Existing Chemical Inv.
List:

One or more components in this product are not listed on or exempt from the Inventory.

Vietnam National Chemical 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: 11/12/2022

Version #: 5.1

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.