

Revision Date: 08/29/2023

This is a kit that contains the following components:

DURALKOTE 240 1:1 PART A

DURALKOTE 240 LIGHT GRAY 1:1 PT B



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SAFETY DATA SHEET

1. Identification

Product identifier: DURALKOTE 240 1:1 PART A

Product Code: TD2379104501NC

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

Cantaat :

Contact person:EH&S DepartmentTelephone:216-531-9222

Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation Category 2B Skin sensitizer Category 1

Unknown toxicity - Health

Acute toxicity, oral 0 %
Acute toxicity, dermal 0 %
Acute toxicity, inhalation, vapor 100 %
Acute toxicity, inhalation, dust 100 %

or mist

Label Elements

Hazard Symbol:



Signal Word: Warning



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Hazard Statement: Causes eye irritation.

May cause an allergic skin reaction.

Precautionary Statements

Prevention: Wash thoroughly after handling. Avoid breathing

dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/

eye protection/ face protection.

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. Specific treatment (see on this label). Wash contaminated clothing before reuse.

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	CAS number	Content in percent (%)*
Bisphenol A Polyglycidyl Ether Resin	25068-38-6	60 - 100%

^{*} 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: If skin irritation occurs: Get medical advice/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: Any material that contacts the eye should be washed out immediately

with water. If easy to do, remove contact lenses. If eye irritation

persists: Get medical advice/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.



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Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

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 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:

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.

7. Handling and storage

Handling



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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: Avoid contact with eyes. Wash hands thoroughly after handling. Avoid

contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial

hygiene practices.

Contact avoidance measures: No data available.

Hygiene measures: Observe good industrial hygiene practices. Contaminated work clothing

should not be allowed out of the workplace. Avoid contact with skin.

Storage

Safe storage conditions: Store away from incompatible materials. Store in original tightly closed

container.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits. None of the components have assigned exposure limits.

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

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

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

Skin and Body Protection: 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. Contaminated work clothing

should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties



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Appearance

Physical state: liquid
Form: liquid
Color: Pale yellow

Odor: Mild

Odor threshold:

pH:

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 limits

Flammability limit - upper (%):

Flammability limit - lower (%):

Explosive limit - upper:

Explosive limit - lower:

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:
Solubility (other):
No data available.
Partition coefficient (n-octanol/water):
No data available.
No data available.
No data available.
Viscosity:
No data available.
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 Thermal decomposition or combustion may liberate carbon oxides and

Products: other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure



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Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and

mucus membranes.

Skin Contact: May be harmful in contact with skin. Causes mild skin irritation. May cause

an allergic skin reaction.

Eye contact: Causes eye irritation.

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

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: Not classified for acute toxicity based on available data.

Specified substance(s):

Bisphenol A Polyglycidyl

Ether Resin

LD 50 (Rat): > 2,000 mg/kg

Dermal

Product: ATEmix: 3,450 mg/kg

Inhalation Product:

Specified substance(s):

Bisphenol A Polyglycidyl LC 50: > 20 mg/l Ether Resin LC 50: > 5 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):



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Bisphenol A Polyglycidyl Ether Resin

in vivo (Rabbit): Moderately irritating, 24 h

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:

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 Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.



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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): 1.5 mg/l Experimental result, Key study

Aquatic Invertebrates

Ether Resin

Product: No data available.

Specified substance(s):

Bisphenol A Polyglycidyl

EC 50 (Daphnia magna, 48 h): 1.1 mg/l experimental result Experimental

result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Ether Resin

Product: No data available.

Specified substance(s):

Bisphenol A Polyglycidyl

NOAEL (Daphnia magna): 0.3 mg/l experimental result Experimental result,

Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Bisphenol A Polyglycidyl

82 % Detected in water. Experimental result, Key study

Ether Resin

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):



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Bisphenol A Polyglycidyl

Ether Resin

Bioconcentration Factor (BCF): 31 Aquatic sediment QSAR, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: 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: 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

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)

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.



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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended

None present or none present in regulated quantities.

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

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

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

Chemical Identity % by weight

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

No ingredient requiring a warning under CA Prop 65.

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:

36 g/l

Regulatory VOC (less water and

exempt solvent)

: 0 g/l

VOC Method 310 : 0.00 %



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Inventory Status:

Australia AICS: All components in this product are

listed on or exempt from the

Inventory.

Canada DSL Inventory List: All components in this product are

listed on or exempt from the

Inventory.

EC Inventory: All components in this product are

listed on or exempt from the

Inventory.

Japan (ENCS) List: All components in this product are

listed on or exempt from the

Inventory.

China Inv. Existing Chemical

Substances:

All components in this product are

listed on or exempt from the

Inventory.

Korea Existing Chemicals Inv. (KECI): All components in this product are

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: All components in this product are

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: All components in this product are

listed on or exempt from the

Inventory.

Japan ISHL Listing: All components in this product are

listed on or exempt from the

Inventory.

Japan Pharmacopoeia Listing: One or more components in this

product are not listed on or exempt

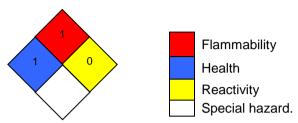
from the Inventory.



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

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

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Version #: 4.0

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.



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1. Identification

Product identifier: DURALKOTE 240 LIGHT GRAY 1:1 PT B

Product Code: TD2379104501NC

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:EH&S DepartmentTelephone: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 1B
Serious Eye Damage/Eye Irritation Category 1
Skin sensitizer Category 1
Toxic to reproduction Category 2

Unknown toxicity - Health

Acute toxicity, oral 16.04 %
Acute toxicity, dermal 32.88 %
Acute toxicity, inhalation, vapor 72.55 %
Acute toxicity, inhalation, dust 70.71 %
or mist

Environmental Hazards

Acute hazards to the aquatic Category 1

environment

Chronic hazards to the aquatic Category 2

environment

Unknown toxicity - Environment

Acute hazards to the aquatic 40.96 %

environment



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Chronic hazards to the aquatic 40.96 % environment

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

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. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection. Use

personal protective equipment as required.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or

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

Collect spillage.

Storage: 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



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Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Titanium dioxide	13463-67-7	10 - <20%
4-Nonylphenol	84852-15-3	10 - <20%
Calcium Carbonate (Limestone)	1317-65-3	10 - <20%
Poly(oxypropylene) diamine	9046-10-0	10 - <20%
Benzyl alcohol	100-51-6	5 - <10%
2-Methyl-1,5-pentanediamine	15520-10-2	1 - <5%
Aluminum oxide	1344-28-1	0.1 - <1%
4-tert-Butylphenol	98-54-4	0.1 - <1%
m-Xylenediamine	1477-55-0	0.1 - <1%
Amorphous silica	7631-86-9	0.1 - <1%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - <1%
Zirconium dioxide	1314-23-4	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: Call a physician or poison control center immediately. If breathing

stops, provide artificial respiration. Move to fresh air. If breathing is

difficult, give oxygen.

Skin Contact: Call a physician or poison control center immediately. 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: Rinse mouth. Call a physician or poison control center immediately.

Never give liquid to an unconscious person. Do not induce vomiting

without advice from poison control center.

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.

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:

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.



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Safe handling advice: Provide adequate ventilation. Wear appropriate personal protective

equipment. Observe good industrial hygiene practices. 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. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing.

Contact avoidance measures: No data available.

Hygiene measures: Do not get in eyes. Observe good industrial hygiene practices. Do not

handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should

not be allowed out of the workplace. Avoid contact with skin.

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 - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (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), as amended (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - 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)
Titanium dioxide - Respirable finescale particles	TWA	2.5 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2022)
Titanium dioxide - Respirable nanoscale particles	TWA	0.2 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2022)
Calcium Carbonate (Limestone) - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
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)





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	TWA	50 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
		particles per	amended (03 2016)
		cubic foot of	, ,
		air	
Aluminum oxide - Respirable	TWA	15 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
fraction.		particles per	amended (03 2016)
		cubic foot of	
		air	
	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	TWA	3 mg/m3	US. ACGIH Threshold Limit Values, as
particles.		5 mg/me	amended (01 2021)
m-Xylenediamine	Ceiling	0.018 ppm	US. ACGIH Threshold Limit Values, as
, 1, 10110 a.a	J 559	ото го рр	amended (01 2022)
Amorphous silica - Inhalable	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as
particles.			amended (01 2021)
Amorphous silica -	TWA	3 mg/m3	US. ACGIH Threshold Limit Values, as
Respirable particles.		5g/1110	amended (01 2021)
Amorphous silica -	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as
Respirable fraction.		5g/1110	amended (09 2016)
Amorphous silica - Total	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as
dust.			amended (09 2016)
	TWA	50 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
	' ' ' '	particles per	amended (09 2016)
		cubic foot of	amended (66 20 10)
		air	
Amorphous silica -	TWA	15 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
Respirable fraction.	1000	particles per	amended (09 2016)
Respirable fraction.		cubic foot of	amended (09 20 10)
		air	
Amorphous silica	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as
, uno priodo omod		5.5 mg/me	amended (09 2016)
	TWA	20 millions of	US. OSHA Table Z-3 (29 CFR 1910.1000), as
		particles per	amended (09 2016)
		cubic foot of	(00 20 10)
		air	
Crystalline Silica (Quartz)/	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances
		5.55g	(29 CFR 1910.1001-1053), as amended (03
			2016)
Silica Sand - Respirable dust.			
	OSHA AC	0.025 mg/m3	
	OSHA_AC T	0.025 mg/m3	US. OSHA Specifically Regulated Substances
	OSHA_AC T	0.025 mg/m3	US. ÓSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03
Silica Sand - Respirable dust.	Т	-	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/		0.025 mg/m3 0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air
Silica Sand - Respirable dust.	Т	-	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	T PEL	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/	Т	0.05 mg/m3 2.4 millions	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	T PEL	0.05 mg/m3 2.4 millions of particles	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/	T PEL	0.05 mg/m3 2.4 millions of particles per cubic foot	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/	T PEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/	T PEL	0.05 mg/m3 2.4 millions of particles per cubic foot	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable.	T PEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/	T PEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable	T PEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	T PEL TWA TWA TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable	T PEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	T PEL TWA TWA STEL	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as amended (2011)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	T PEL TWA TWA TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as amended (2011) US. ACGIH Threshold Limit Values, as
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Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	T PEL TWA TWA STEL	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as amended (2011) US. ACGIH Threshold Limit Values, as amended (2011) US. OSHA Table Z-1 Limits for Air
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	T PEL TWA TWA STEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3 10 mg/m3 5 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (20200) US. ACGIH Threshold Limit Values, as amended (2011) US. ACGIH Threshold Limit Values, as amended (2011) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction. Zirconium dioxide - as Zr	T PEL TWA TWA TWA STEL TWA PEL	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3 10 mg/m3 5 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as amended (2011) US. ACGIH Threshold Limit Values, as amended (2011) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction. Zirconium dioxide - as Zr	T PEL TWA TWA STEL TWA	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3 10 mg/m3 5 mg/m3 5 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as amended (2011) US. ACGIH Threshold Limit Values, as amended (2011) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (02 2006)
Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable dust. Crystalline Silica (Quartz)/ Silica Sand - Respirable. Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	T PEL TWA TWA TWA STEL TWA PEL	0.05 mg/m3 2.4 millions of particles per cubic foot of air 0.1 mg/m3 0.025 mg/m3 10 mg/m3 5 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000) US. ACGIH Threshold Limit Values, as amended (02 2020) US. ACGIH Threshold Limit Values, as amended (2011) US. ACGIH Threshold Limit Values, as amended (2011) US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as





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Zirconium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Zirconium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Zirconium dioxide - 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)
Zirconium dioxide - Respirable particles.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)
Zirconium dioxide - Inhalable particles.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)

Chemical name	Туре	Exposure Limit Values	Source
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)



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Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
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.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); 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: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Aluminum oxide - Respirable.	TWA	1.0 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2022)
Aluminum oxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)
Aluminum oxide - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)
m-Xylenediamine	CEILING	0.1 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
m-Xylenediamine	CEV	0.1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
m-Xylenediamine	CEILING	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Amorphous silica - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Amorphous silica - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Amorphous silica - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of



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			Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Amorphous silica - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
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)
	TWA	0.05 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)
Zirconium dioxide - as Zr	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
	STEL	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Zirconium dioxide - as Zr	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Zirconium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2019)
Zirconium dioxide - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Zirconium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Zirconium dioxide - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - as Zr	TWA	5 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2022)
	STEL	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2022)

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



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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: Do not get in eyes. Observe good industrial hygiene practices. Do not

handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should

not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid Form: liquid Color: Gray

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 explosive limits

Flammability limit - upper (%):

Flammability limit - lower (%):

Explosive limit - upper:

Explosive limit - lower:

No data available.

Vapor density: Vapors are heavier than air and may travel along the floor and

in the bottom of containers.

Relative density: 1.35

Solubility(ies)

Solubility in water: Practically Insoluble
Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.



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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: Avoid contact with acids.

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 severe skin burns. 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: 3,199.29 mg/kg

Dermal

Product: ATEmix: 7,232.55 mg/kg

Inhalation

Product: ATEmix: 34.24 mg/l



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ATEmix: 13.88 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

4-Nonylphenol in vivo (Rabbit): Irritating, 1 - 8 d

Poly(oxypropylene) in

diamine

in vivo (Rabbit): Corrosive, 48 - 72 h

Benzyl alcohol in vivo (Rabbit): Slightly irritating

Aluminum oxide in vivo (Rabbit): Not irritant, 24 - 72 h

4-tert-Butylphenol in vivo (Rabbit): Not Classified, 7 - 10 d

m-Xylenediamine in vivo (Mouse): Corrosive, 4 h

Amorphous silica in vivo (Rabbit): Not irritant, 48 h

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

4-Nonylphenol Rabbit, 24 - 72 h: Corrosive

Poly(oxypropylene)

diamine

Rabbit, 24 h: Corrosive

2-Methyl-1,5pentanediamine Rabbit, 24 - 72 h: Category 1

Aluminum oxide Rabbit, 24 - 72 h: Not irritant

4-tert-Butylphenol Rabbit, 24 - 72 h: Category 1

Amorphous silica Rabbit, 24 - 72 h: Not irritant

Zirconium dioxide Rabbit, 24 h: Not irritant

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity



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Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

US. National Toxicology Program (NTP) Report on Carcinogens:

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:

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 - Single Exposure
Product:

No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product:
No data available.

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:



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Fish

Product: No data available.

Specified substance(s):

4-Nonylphenol EC 50 (Pimephales promelas, 96 h): 96 μg/l Experimental result, Key study

Poly(oxypropylene)

diamine

LC 50 (Cyprinodon variegatus, 96 h): 772.14 mg/l Experimental result, Key

study

Benzyl alcohol LC 50 (Pimephales promelas, 96 h): 460 mg/l Experimental result, Key study

2-Methyl-1,5pentanediamine LC 50 (Leuciscus idus, 48 h): 130 mg/l Experimental result, Supporting

study

Aluminum oxide LC 50 (Pimephales promelas, 96 h): 1.16 mg/l Experimental result, Weight

of Evidence study

4-tert-Butylphenol LC 50 (Fathead minnow (Pimephales promelas), 96 h): 4.71 - 5.62 mg/l

Mortality

m-Xylenediamine LC 50 (Oryzias latipes, 96 h): 87.6 mg/l Experimental result, Key study

Zirconium dioxide LC 50 (Danio rerio, 96 h): > 100 mg/l Experimental result, Key study

Aquatic Invertebrates

Product:

No data available.

Specified substance(s):

4-Nonylphenol EC 50 (Daphnia magna, 48 h): 84.4 μg/l experimental result Experimental

result, Key study

Poly(oxypropylene)

diamine

EC 50 (Daphnia magna, 48 h): 80 mg/l experimental result Experimental

result. Kev study

Benzyl alcohol EC 50 (Daphnia magna, 48 h): 230 mg/l experimental result Experimental

result, Key study

2-Methyl-1,5-

pentanediamine

EC 50 (Daphnia magna, 48 h): 19.8 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

4-tert-Butylphenol EC 50 (Daphnia magna, 48 h): 4.8 mg/l experimental result Experimental

result, Key study

m-Xylenediamine EC 50 (Daphnia magna, 48 h): 15.2 mg/l experimental result Experimental

result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):



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4-Nonylphenol NOAEL (Oncorhynchus mykiss): 0.006 mg/l experimental result

Experimental result, Key study

4-tert-Butylphenol NOAEL (Pimephales promelas): 10 µg/l experimental result Experimental

result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

4-Nonylphenol NOAEL (Daphnia magna): 0.024 mg/l experimental result Experimental

result, Key study

Benzyl alcohol NOAEL (Daphnia magna): 51 mg/l experimental result Experimental result,

Key study

2-Methyl-1,5- NOAEL (Daphnia magna): 4.16 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of

substances (category approach), Key study

Aluminum oxide NOAEL (Daphnia magna): 1.89 mg/l experimental result Experimental result,

Weight of Evidence study

4-tert-Butylphenol NOAEL (Daphnia magna): 0.73 mg/l experimental result Experimental result,

Key study

m-Xylenediamine NOAEL (Daphnia magna): 4.7 mg/l experimental result Experimental result,

Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

4-Nonylphenol 48.2 % (35 d) Detected in water. Experimental result, Key study

Benzyl alcohol 97 % (21 d) Detected in water. Experimental result, Key study

2-Methyl-1,5- 100 % Detected in water. Experimental result, Key study

pentanediamine

4-tert-Butylphenol 60 % (28 d) Detected in water. Experimental result, Key study

m-Xylenediamine 49 % (28 d) Detected in water. Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential Bioconcentration Factor (BCF)



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Product: No data available.

Specified substance(s):

4-Nonylphenol Pimephales promelas, Bioconcentration Factor (BCF): 740 Aquatic sediment

Experimental result, Key study

4-tert-Butylphenol Cyprinus carpio, Bioconcentration Factor (BCF): 44 - 48 Aquatic sediment

Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Benzyl alcohol Log Kow: 1.10

Mobility in soil: No data available.

Other adverse effects: Very toxic to aquatic organisms. 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

TDG:

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

CFR / DOT:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 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



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4-Nonylphenol 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 1910.1001-1053), as amended

Chemical Identity OSHA hazard(s) Crystalline Silica kidney effects (Quartz)/ Silica Sand

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 Reproductive toxicity

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

Chemical Identity % by weight 4-Nonylphenol 1.0%

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

International regulations



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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:

36 g/l

Regulatory VOC (less water and

: 284 g/l

exempt solvent)

VOC Method 310 : 23.72 %



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Inventory Status:

Canada DSL Inventory List: One or more components in this

product are not listed on or exempt

from the Inventory.

EC Inventory: 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.

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



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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.

Australia Industrial Chem. Act (AIIC): 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: 08/29/2023

Version #: 4.0

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.