

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name HALAR® 6614

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- For industrial use only

1.3 Details of the supplier of the safety data sheet**Company**

SOLVAY SPECIALTY POLYMERS USA, LLC
4500 MCGINNIS FERRY ROAD
30005-3914, ALPHARETTA GA
USA
Tel: +1-770-7728200
Fax: +1-770-7728213
Product Information:
+1-800-2210553

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture**HCS 2012 (29 CFR 1910.1200)**

Combustible dust
Respiratory sensitization, Category 1

Reproductive toxicity, Category 1B
Specific target organ toxicity - single exposure,
Category 2
Specific target organ toxicity - repeated exposure,
Category 2

May form combustible dust concentrations in air.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H360: May damage fertility or the unborn child.
H371: May cause damage to organs. (Blood)

H373: May cause damage to organs through prolonged or repeated exposure. (Blood, spleen)

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram



Signal Word

- Danger

Hazard Statements

- May form combustible dust concentrations in air.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H360 May damage fertility or the unborn child.
- H371 May cause damage to organs (Blood).
- H373 May cause damage to organs (Blood, spleen) through prolonged or repeated exposure.

Precautionary Statements

Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P285 In case of inadequate ventilation wear respiratory protection.

Response

- P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
- P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Storage

- P405 Store locked up.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

- H402: Harmful to aquatic life.
- H412: Harmful to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture**Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
Wollastonite	13983-17-0	>= 10 - < 15
Formaldehyde, polymer with 2-(chloromethyl)oxirane and 2-methylphenol	29690-82-2	>= 5 - < 10
Cobalt oxide (Co ₃ O ₄)	1308-06-1	>= 1 - < 5
Chromium oxide (Cr ₂ O ₃)	1308-38-9	>= 1 - < 5
Benzenamine, 4,4'-sulfonylbis-	80-08-0	>= 1 - < 5
Titanium oxide (TiO ₂)	13463-67-7	>= 0.5 - < 1
Quartz (SiO ₂)	14808-60-7	>= 0.1 - < 0.3
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	34762-90-8	>= 0.1 - < 0.3

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

Non Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
1-Propene, 3,3,3-trifluoro-2-(trifluoromethyl)-, polymer with 1-chloro-1,2,2-trifluoroethene and ethene	54302-04-4	70- 80

SECTION 4: First aid measures**4.1 Description of first-aid measures****In case of inhalation**

- Remove the subject from dusty environment and let him blow his nose.
- Call a physician immediately.

Exposure to decomposition products

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Symptoms of poisoning may develop many hours after exposure.
- Keep under medical supervision for at least 48 hours.

In case of skin contact

- Wash off immediately with plenty of water.
- Remove contaminated clothing and shoes.
- Call a physician immediately.

Exposure to decomposition products

- Wash off with soap and water.
- If fingers/finger nails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes.
- Consult a physician.

In case of eye contact

- In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Immediate medical attention is required.

Exposure to decomposition products

- Rinse immediately with plenty of water, also under the eyelids.
- Remove contact lenses.

In case of ingestion

- If large quantities of this material are swallowed, call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed**In case of inhalation****Effects**

- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

Symptoms***Exposure to decomposition products***

- Headache
- Shortness of breath
- Cough

In case of skin contact**Effects**

- May cause skin irritation and/or dermatitis.

Symptoms***Exposure to decomposition products***

- Irritation
- Redness
- Burn

In case of eye contact**Effects**

- Mechanical irritation from the particulates generated by the product.

Symptoms***Exposure to decomposition products***

- Irritation
- Redness
- Burn

In case of ingestion**Effects**

- Low ingestion hazard.

4.3 Indication of any immediate medical attention and special treatment needed

- no data available

SECTION 5: Firefighting measures**Flash point**

The product is not flammable.

Autoignition temperature

No data available

Flammability / Explosive limit

No data available

5.1 Extinguishing media

Suitable extinguishing media

- powder
- Foam
- Dry chemical
- Carbon dioxide (CO₂)
- Water spray

Unsuitable extinguishing media

- Water spray jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

- The product is not flammable.
- Dust may form explosive mixture in air.
- Take measures to prevent the build up of electrostatic charge.
- In case of fire hazardous decomposition products may be produced such as: Gaseous hydrogen fluoride (HF), Fluorophosgene

Hazardous combustion products:

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene
- Gaseous hydrogen chloride (HCl).
- Other hazardous decomposition products may be formed.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Wear self-contained breathing apparatus and protective suit.
- When intervention in close proximity wear acid resistant over suit.

Further information

- Evacuate personnel to safe areas.
- Approach from upwind.
- Protect intervention team with a water spray as they approach the fire.
- Keep containers and surroundings cool with water spray.
- Keep product and empty container away from heat and sources of ignition.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Prevent further leakage or spillage if safe to do so.

Advice for emergency responders

- Ensure adequate ventilation.
- Avoid dust formation.
- Material can create slippery conditions.
- Sweep up to prevent slipping hazard.
- Keep away from open flames, hot surfaces and sources of ignition.

6.2 Environmental precautions

- The product should not be allowed to enter drains, water courses or the soil.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.
- Should not be released into the environment.
- Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

- Avoid dust formation.
- Do not create a powder cloud by using a brush or compressed air.
- Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Ensure adequate ventilation.
- During processing, dust may form explosive mixture in air.
- Use personal protective equipment.
- Avoid dust formation.
- Keep away from heat and sources of ignition.
- Do not contaminate tobacco products.
- To avoid thermal decomposition, do not overheat.
- Take measures to prevent the build up of electrostatic charge.
- Clean and dry piping circuits and equipment before any operations.
- Ensure all equipment is electrically grounded before beginning transfer operations.

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Keep in properly labeled containers.
- Keep away from heat and sources of ignition.
- Keep away from combustible material.
- Keep away from incompatible products
- Provide tight electrical equipment well protected against corrosion.
- Refer to protective measures listed in sections 7 and 8.

Packaging material**Suitable material**

- glass
- Metals

- Plastic materials.

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Components	Value type	Value	Basis
Particles not otherwise specified (PNOS)			National Institute for Occupational Safety and Health Includes all inert or nuisance dusts, whether mineral, inorganic, not listed specifically in 1910.1000., See Appendix D - Substances with No Established RELs
Particles not otherwise specified (PNOS)	TWA	15 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants Form of exposure : total dust All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
Particles not otherwise specified (PNOS)	TWA	5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants Form of exposure : respirable fraction All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
Particles not otherwise specified (PNOS)	TWA	10 mg/m3	American Conference of Governmental Industrial Hygienists Form of exposure : Inhalable particulate matter
Particles not otherwise specified (PNOS)	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists Form of exposure : Respirable particulate matter
Wollastonite	TWA	1 mg/m3	American Conference of Governmental Industrial Hygienists Form of exposure : Inhalable particulate matter
Cobalt oxide (Co3O4)	TWA	0.02 mg/m3	American Conference of Governmental Industrial Hygienists Form of exposure : Inhalable particulate matter Expressed as :Cobalt
Chromium oxide (Cr2O3)	TWA	1 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants Expressed as :chromium

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Chromium oxide (Cr2O3)	TWA	0.5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Expressed as :chromium			
Chromium oxide (Cr2O3)	TWA	0.5 mg/m3	National Institute for Occupational Safety and Health
Expressed as :chromium			
Titanium oxide (TiO2)			National Institute for Occupational Safety and Health
Potential Occupational Carcinogen			
Titanium oxide (TiO2)	TWA	15 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Form of exposure : total dust			
Titanium oxide (TiO2)	TWA	2.5 mg/m3	American Conference of Governmental Industrial Hygienists
Form of exposure : Respirable particulate matter Expressed as :Titanium dioxide			
Quartz (SiO2)	TWA	0.05 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Form of exposure : Respirable dust			
Quartz (SiO2)	TWA	10 mg/m3 / %SiO2+2	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
Form of exposure : respirable			
Quartz (SiO2)	TWA	250 mppcf / %SiO2+5	Occupational Safety and Health Administration - Table Z-3 Mineral Dusts
Form of exposure : respirable			
Quartz (SiO2)	TWA	0.025 mg/m3	American Conference of Governmental Industrial Hygienists
Form of exposure : Respirable particulate matter Expressed as :Silica			
Quartz (SiO2)	PEL	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Form of exposure : respirable OSHA specifically regulated carcinogen			
Quartz (SiO2)	TWA	0.05 mg/m3	National Institute for Occupational Safety and Health
Form of exposure : Respirable dust Potential Occupational CarcinogenExpressed as :Silica			

Threshold limit values of by-products from thermal decomposition:**Components with workplace occupational exposure limits**

Components	Value type	Value	Basis
Hydrofluoric acid	TWA	0.5 ppm	American Conference of Governmental Industrial Hygienists
		Danger of cutaneous absorption Expressed as :Fluorine	
Hydrofluoric acid	C	2 ppm	American Conference of Governmental Industrial Hygienists
		Danger of cutaneous absorption Expressed as :Fluorine	
Hydrofluoric acid	C	6 ppm 5 mg/m3	National Institute for Occupational Safety and Health
Hydrofluoric acid	TWA	3 ppm 2.5 mg/m3	National Institute for Occupational Safety and Health
Hydrofluoric acid			Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
		Expressed as :Fluorine	
Hydrofluoric acid	TWA	3 ppm	Occupational Safety and Health Administration - Table Z-2
Carbonic difluoride	TWA	2 ppm	American Conference of Governmental Industrial Hygienists
Carbonic difluoride	STEL	5 ppm	American Conference of Governmental Industrial Hygienists
Carbonic difluoride	TWA	2 ppm 5 mg/m3	National Institute for Occupational Safety and Health
Carbonic difluoride	ST	5 ppm 15 mg/m3	National Institute for Occupational Safety and Health
Hydrochloric acid	C	5 ppm 7 mg/m3	National Institute for Occupational Safety and Health
Hydrochloric acid	C	2 ppm	American Conference of Governmental Industrial Hygienists
Hydrochloric acid	C	5 ppm 7 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Chromium oxide (Cr ₂ O ₃)	1308-38-9	25 mg/m ³
Titanium oxide (TiO ₂)	13463-67-7	5000 mg/m ³
Quartz (SiO ₂)	14808-60-7	50 mg/m ³

Biological Exposure Indices

Components	Value type	Value	Basis
Cobalt oxide (Co ₃ O ₄)	BEI	15 µg/l Cobalt Urine End of shift at end of workweek	American Conference of Governmental Industrial Hygienists
		Not combined with tungsten carbide Nonspecific	
Cobalt oxide (Co ₃ O ₄)	BEI	Cobalt Urine End of shift at end of workweek	American Conference of Governmental Industrial Hygienists
		Combined with tungsten carbide Nonspecific Nonquantitative	

8.2 Exposure controls**Control measures****Engineering measures**

- Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.
- For additional information, consult the current edition of The Guide to the Safe Handling of Fluoropolymers published by the Society of Plastics Industry, Inc. (SPI) Fluoropolymer Division.

Individual protection measures

Respiratory protection

- In case of insufficient ventilation, wear suitable respiratory equipment.
- In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator.
- In the case of vapor formation use a respirator with an approved filter.
- In case of decomposition (see section 10), use an air breathing apparatus with face mask.
- Use only respiratory protection that conforms to international/ national standards.
- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- Comply with OSHA respiratory protection requirements.

Hand protection

- Wear protective gloves.
- Protective gloves - impervious chemical resistant:

Suitable material

- Nitrile rubber
- Neoprene gloves

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection

- Tightly fitting safety goggles.

Skin and body protection

- Wear work overall and safety shoes.

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Physical state</u>	solid
<u>Form</u>	powder
<u>Color</u>	green
<u>Odor</u>	odorless
<u>Odor Threshold</u>	No data available
<u>Melting point/freezing point</u>	Melting point/ range: 428 - 455 °F (220 - 235 °C)
<u>Initial boiling point and boiling range</u>	Boiling point/boiling range: Not applicable
<u>Flammability (solid, gas)</u>	The product is not flammable.

	May form combustible dust concentrations in air.
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	No data available
<u>Flash point</u>	The product is not flammable.
<u>Autoignition temperature</u>	No data available
<u>Decomposition temperature</u>	> 572 °F (> 300 °C)
<u>pH</u>	substance/mixture is non-soluble (in water)
<u>Viscosity</u>	No data available
<u>Solubility</u>	<u>Water solubility:</u> insoluble
<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Vapor pressure</u>	No data available
<u>Density</u>	1.65 - 1.71 g/cm ³
<u>Relative density</u>	No data available
<u>Relative vapor density</u>	No data available
<u>Particle characteristics</u>	No data available
<u>Evaporation rate (Butylacetate = 1)</u>	No data available
9.2 Other information	
<u>Explosiveness</u>	Not explosive
<u>Oxidizing properties</u>	Not considered as oxidizing.

SECTION 10: Stability and reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- Under certain conditions, small dust-particles from the product may form flammable and explosive mixtures with the air.

10.4 Conditions to avoid

- To avoid thermal decomposition, do not overheat.
- Keep away from flames and sparks.
- Avoid shock and friction.

10.5 Incompatible materials

- Alkali metals (molten form)
- Fluorine under pressure
- Strong acids
- Oxidizing agents

10.6 Hazardous decomposition products

- Gaseous hydrogen fluoride (HF).
- Fluorophosgene
- Gaseous hydrogen chloride (HCl).
- Other hazardous decomposition products may be formed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Wollastonite

By analogy

LD50: - Rat , male and female
Method: OECD Test Guideline 401
Not classified as hazardous for acute oral toxicity according to GHS.
No mortality observed at this dose.
Unpublished reports

Cobalt oxide (Co3O4)

LD50 : > 5,000 mg/kg - Rat , male and female
Method: OECD Test Guideline 401
Not classified as hazardous for acute oral toxicity according to GHS.
No effect observed at this dose or concentration
Unpublished reports

Chromium oxide (Cr2O3)

LD50 : > 15,000 mg/kg - Rat , male
Method: OECD Test Guideline 401
Not classified as hazardous for acute oral toxicity according to GHS.
Gavage
No mortality observed at this dose.
Unpublished reports

Benzenamine, 4,4'-sulfonylbis-

LD50 : > 250 mg/kg - Rabbit , female
Method: according to a standardized method
This product is classified as acute toxicity category 3
Published data

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

LD50 : > 5,000 mg/kg - Rat , male and female
Method: OECD Test Guideline 401
Not classified as hazardous for acute oral toxicity according to GHS.
No mortality observed at this dose.
Unpublished reports

Acute inhalation toxicity

Wollastonite	<p>By analogy</p> <p>LC50 - 4 h (dust/mist) : - Rat , male and female Method: OECD Test Guideline 403 Not classified as hazardous for acute inhalation toxicity according to GHS. Unpublished reports Dust</p>
Cobalt oxide (Co3O4)	<p>LC50 - 4 h (dust/mist) : > 5.06 mg/l - Rat , male and female Method: OECD Test Guideline 436 Not classified as hazardous for acute inhalation toxicity according to GHS. No mortality observed at this concentration. Unpublished reports</p>
Chromium oxide (Cr2O3)	<p>LC50 - 4 h (dust/mist) : > 5.41 mg/l - Rat , male and female Method: OECD Test Guideline 403 Not classified as hazardous for acute inhalation toxicity according to GHS. No mortality observed at this concentration. Unpublished reports</p>
Titanium oxide (TiO2)	<p>LC50 - 4 h (dust/mist) : > 6.8 mg/l - Rat , males Not classified as harmful by inhalation Unpublished reports</p> <p>LC50 - 4 h (dust/mist) : > 5.09 mg/l - Rat , for males and females Method: OECD Test Guideline 403 Not classified as harmful by inhalation Published data</p>
Acute dermal toxicity	
Wollastonite	<p>By analogy</p> <p>LD50 : - Rabbit Method: OECD Test Guideline 402 Not classified as hazardous for acute dermal toxicity according to GHS. Unpublished reports</p>
Cobalt oxide (Co3O4)	<p>LD50 : > 2,000 mg/kg - Rat , male and female Method: OECD Test Guideline 402 Not classified as hazardous for acute dermal toxicity according to GHS. No mortality observed at this concentration. Unpublished reports</p>
Benzenamine, 4,4'-sulfonylbis-	<p>LD50 : > 2,000 mg/kg - Rabbit , male and female Method: according to a standardized method Not classified as hazardous for acute dermal toxicity according to GHS. Occlusive No mortality observed at this dose. Published data</p>
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	<p>LD50 : > 2,870 mg/kg - Rat , male and female Method: OECD Test Guideline 402 Not classified as hazardous for acute dermal toxicity according to GHS. Original results (ml/kg) are converted using density. No mortality observed at this dose. Unpublished reports</p>

Acute toxicity (other routes of administration)

No data available

Skin corrosion/irritation

Wollastonite

By analogy

Rabbit
 No skin irritation
 Method: according to a standardized method
 Occlusive
 Unpublished internal reports
 Unpublished reports

Formaldehyde, polymer with 2-(chloromethyl)oxirane and 2-methylphenol

No skin irritation
 Method: OECD Test Guideline 431
 Unpublished reports

Cobalt oxide (Co₃O₄)

reconstructed human epidermis (RhE)
 No skin irritation
 Method: OECD Test Guideline 439
 Unpublished reports

Chromium oxide (Cr₂O₃)

Rabbit
 No skin irritation
 Method: OECD Test Guideline 404
 Unpublished reports

Benzenamine, 4,4'-sulfonylbis-

Rabbit
 Not classified as irritating to skin.
 Method: OECD Test Guideline 404
 Occlusive
 Unpublished reports

Titanium oxide (TiO₂)

Rabbit
 No skin irritation
 Method: OECD Test Guideline 404
 Unpublished reports

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

Rabbit
 Not irritating to rabbits on cutaneous application.
 Method: OECD Test Guideline 404
 Occlusive
 Unpublished reports

Serious eye damage/eye irritation

Wollastonite

By analogy

Rabbit
 Not irritating to rabbits on ocular application.
 Method: according to a standardized method
 Unpublished reports

Formaldehyde, polymer with 2-(chloromethyl)oxirane and 2-methylphenol

No eye irritation
 Method: OECD Test Guideline 437
 Unpublished reports

Cobalt oxide (Co ₃ O ₄)	Rabbit Not irritating to rabbits on ocular application. Method: OECD Test Guideline 405 Unpublished reports
Chromium oxide (Cr ₂ O ₃)	Rabbit No eye irritation Method: OECD Test Guideline 405 Unpublished reports
Benzenamine, 4,4'-sulfonylbis-	Bovine cornea No eye irritation Method: OECD Test Guideline 437 Unpublished reports
Titanium oxide (TiO ₂)	Rabbit No eye irritation Method: OECD Test Guideline 405 Unpublished reports
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Rabbit Not irritating to rabbits on ocular application. Method: OECD Test Guideline 405 Unpublished reports

Respiratory or skin sensitization

Cobalt oxide (Co ₃ O ₄)	Local lymph node assay - Mouse Maximum Stimulation Index < 3 Not classified as sensitising by skin contact according to GHS criteria Method: OECD Test Guideline 429 Unpublished reports Probability or evidence of low to moderate respiratory sensitization rate in humans Classified as a respiratory sensitizer sub-category 1B according to GHS criteria largely based on human evidence Cobalt compounds Published data
Chromium oxide (Cr ₂ O ₃)	By analogy Buehler Test - Guinea pig Responding animals in Buehler test < 15 % Not classified as sensitising by skin contact according to GHS criteria Method: OECD Test Guideline 406 Unpublished reports
Benzenamine, 4,4'-sulfonylbis-	Local lymph node assay - Mouse Does not cause skin sensitization. Method: OECD Test Guideline 429 Unpublished reports
Titanium oxide (TiO ₂)	Local lymph node assay - Mouse negative Does not cause skin sensitization.

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

Buehler Test - Guinea pig
negative
Does not cause skin sensitization.

Local lymph node assay - Mouse
EC 3 value > 2 %
Method: OECD Test Guideline 429
Unpublished reports

Mutagenicity**Genotoxicity in vitro**

Wollastonite

By analogy

Mutagenicity (Salmonella typhimurium - reverse mutation assay)
with and without metabolic activation
Method: OECD Test Guideline 471
In vitro tests did not show mutagenic effects
Unpublished reports

Chromosome aberration test in vitro
Strain: Human embryonic lung cells (Wi-38)
without metabolic activation

negative
Method: OECD Test Guideline 473
Unpublished reports

By analogy

Gene mutation assays in mammalian cells.
Strain: Chinese hamster ovary cells
with and without metabolic activation
Method: OECD Test Guideline 476
In vitro tests did not show mutagenic effects
Unpublished reports

Cobalt oxide (Co₃O₄)

category approach
Information given is based on data obtained from similar substances.

Ames test
Strain: Salmonella typhimurium
with metabolic activation

negative
Method: OECD Test Guideline 471
Published data
Unpublished reports

Ames test
Strain: Salmonella typhimurium
without metabolic activation

Positive results were obtained in some in vitro tests.
Method: OECD Test Guideline 471
Published data
Unpublished reports

category approach
Information given is based on data obtained from similar substances.

Chromosome aberration test in vitro
Strain: Human lymphocytes
with and without metabolic activation

positive
Method: OECD Test Guideline 473
Unpublished reports

In vitro micronucleus test
Strain: Syrian Hamster Embryo (SHE) cells
without metabolic activation

positive
Published data

category approach
Information given is based on data obtained from similar substances.

Gene mutation assays in mammalian cells.
Strain: mouse lymphoma cells
with and without metabolic activation

negative
Method: OECD Test Guideline 476
Published data
Unpublished reports

Gene mutation assays in mammalian cells.
Strain: Chinese hamster cells

positive
Published data

Chromium oxide (Cr2O3)

By analogy

Benzenamine, 4,4'-sulfonylbis-	Ames test Strain: Salmonella typhimurium with and without metabolic activation negative Method: OECD Test Guideline 471 Unpublished reports
	Ames test with and without metabolic activation negative Method: OECD Test Guideline 471 Unpublished reports
	Chromosome aberration test in vitro Strain: Human lymphocytes without metabolic activation positive Method: OECD Test Guideline 473 Unpublished reports Gene mutation assays in mammalian cells. Strain: mouse lymphoma cells with and without metabolic activation negative Method: OECD Test Guideline 476 Unpublished reports
Titanium oxide (TiO ₂)	Chromosome aberration test in vitro Strain: CHO with and without metabolic activation negative Unpublished reports
	Mouse lymphoma test / TK with and without metabolic activation negative Unpublished reports
	Mutagenicity (Salmonella typhimurium - reverse mutation assay) with and without metabolic activation negative Unpublished reports
	Mutagenicity (Escherichia coli - reverse mutation assay) with and without metabolic activation negative Unpublished reports
	In vitro tests did not show mutagenic effects

Quartz (SiO₂)

Mutagenicity (Salmonella typhimurium - reverse mutation assay)
with and without metabolic activation

negative
Published data

Chromosome aberration test in vitro

negative
Published data

SCE test

negative
Published data

Micronucleus test

Conflicting results have been seen in different studies.
Published data

Boron, trichloro(N,N-dimethyl-1-
octanamine)-, (T-4)-

Ames test
Strain: Salmonella typhimurium and Escherichia coli
with and without metabolic activation

negative
Method: OECD Test Guideline 471
Unpublished reports

Chromosome aberration test in vitro
Strain: Chinese hamster ovary cells
with and without metabolic activation

negative
Method: OECD Test Guideline 473
Unpublished reports

Gene mutation assays in mammalian cells.
Strain: Chinese hamster ovary cells
with and without metabolic activation

negative
Method: OECD Test Guideline 476
Unpublished reports

Genotoxicity in vivo
Wollastonite

By analogy

Chromosome aberration test in vivo - Rat
male
Oral
Method: OECD Test Guideline 475

negative
Unpublished reports

By analogy

Cobalt oxide (Co3O4)	dominant lethal test - Rat male and female Oral Method: OECD Test Guideline 478
	negative Gavage Unpublished reports
	category approach Information given is based on data obtained from similar substances.
	Chromosome aberration test in vivo - Rat male and female Oral Method: OECD Test Guideline 475
	negative Gavage Unpublished reports
	In vivo micronucleus test - Mouse male and female Inhalation Method: OECD Test Guideline 474
	negative Unpublished reports Published data
	In vivo micronucleus test - Mouse male and female Inhalation Method: OECD Test Guideline 474
	negative Unpublished reports Published data
	Chromosome aberration test in vivo - Rat male Oral Method: OECD Test Guideline 483
	negative Gavage Unpublished reports
	In vivo micronucleus test - Mouse male and female Intraperitoneal route Method: OECD Test Guideline 474
Chromium oxide (Cr2O3)	negative Unpublished reports

Benzenamine, 4,4'-sulfonylbis-	<p>In vivo micronucleus test - Mouse male Oral Method: OECD Test Guideline 474</p> <p>negative Unpublished reports</p>
Titanium oxide (TiO ₂)	<p>In vivo micronucleus test - Mouse male Intraperitoneal route</p> <p>negative Published data</p> <p>Chromosome aberration test in vivo - Mouse male Intraperitoneal route</p> <p>negative Published data</p> <p>In vivo tests did not show mutagenic effects</p>
Quartz (SiO ₂)	<p>SCE test Conflicting results have been seen in different studies. Published data</p> <p>Mutagenicity (in vitro mammalian cytogenetic test) - Rat intratracheal</p> <p>positive Published data</p>
<u>Carcinogenicity</u> Wollastonite	<p>By analogy</p> <p>Rat , male and female Oral Exposure time: two-year Target Organs: No specific target organs noted Method: OECD Test Guideline 453 Animal testing did not show any carcinogenic effects. Unpublished reports</p>
Cobalt oxide (Co ₃ O ₄)	<p>category approach Conclusion is not possible due to incomplete or heterogeneous data. IARC Group 2B Carcinogen; (Cobalt)</p>
Chromium oxide (Cr ₂ O ₃)	<p>Rat , male and female Oral NOAEL: 3,000mg/kg bw/day in feed No carcinogenic effects have been observed Published data</p>

Benzenamine, 4,4'-sulfonylbis-

Humans , male
 Oral
 > 25
 Method: Epidemiological data
 The product is not considered to be carcinogenic.
 Unpublished reports

Titanium oxide (TiO₂)

Dust causes lung tumors in rats.
 Lung tumors observed in rat following long-term inhalation exposure to poorly soluble particles of low toxicity are the result of a species-specific mechanism known as "lung overload". The formation of tumors is not observed in other species under similar exposure conditions and is considered not predictive of the effects in humans.
 Not classifiable as a human carcinogen.
 Note: IARC Classification: Group 2B

Components	CAS-No.	Rating	Basis
Quartz (SiO ₂)	14808-60-7	Known to be human carcinogen	NTP
Quartz (SiO ₂)	14808-60-7	Group 1: Carcinogenic to humans	IARC
Titanium oxide (TiO ₂)	13463-67-7	Group 2B: Possibly carcinogenic to humans	IARC
Quartz (SiO ₂)	14808-60-7	Listed	OSHA
Quartz (SiO ₂)	14808-60-7		

Toxicity for reproduction and development**Toxicity to reproduction / fertility**Cobalt oxide (Co₃O₄)

Toxicity for repeated doses. - Rat, male and female, Oral
 General Toxicity Parent NOAEL: >= 1,000 mg/kg bw/day
 OECD Test Guideline 408
 No effect observed in male or female reproductive system in repeated dose tox studies ., Unpublished reports

Reproduction / developmental toxicity screening test - Rat, male and female, Oral
 General Toxicity Parent NOAEL: >= 1,000 mg/kg bw/day
 General Toxicity F1 NOAEL: 300 mg/kg bw/day
 OECD Test Guideline 422
 The product is not considered to affect fertility., Unpublished reports

Chromium oxide (Cr₂O₃)

Fertility study 1 generation - Rat, male and female, inhalation (dust)
 General Toxicity Parent NOAEL: 44 mg/m³
 no impairment of fertility has been observed, Published data

By analogy

Two-generation reproductive toxicity - Rat, male and female, Oral
no impairment of fertility has been observed, Published data, in feed

Benzenamine, 4,4'-sulfonylbis-

Fertility - Rat, male, Oral
Fertility NOAEL Parent: 0.5 - 2 mg/kg bw/day

Fertility NOAEL F1: 2 mg/kg bw/day
Gavage, Published data

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

Rat, male and female, Oral
General Toxicity Parent NOAEL: 1,000 mg/kg bw/day
Fertility NOAEL Parent: 300 mg/kg bw/day
Developmental Toxicity NOAEL F1: 300 mg/kg bw/day
OECD Test Guideline 422

Developmental Toxicity/Teratogenicity Wollastonite

By analogy

Rat, female, Oral
Test period: 10 Days
Method: OECD Test Guideline 414
no embryotoxic or teratogenic effects have been observed, Unpublished reports

Cobalt oxide (Co₃O₄)

Embryo-fetal development - Rat, male and female, Oral
General Toxicity Maternal NOAEL: \geq 1,000 mg/kg bw/day
Teratogenicity NOAEL F1: \geq 1,000 mg/kg bw/day
Developmental Toxicity NOAEL F1: \geq 1,000 mg/kg bw/day
Result: No teratogenic effects.
Method: OECD Test Guideline 414
no embryotoxic or teratogenic effects have been observed, No effect observed on development, Unpublished reports

Chromium oxide (Cr₂O₃)

By analogy

Rat, Oral
in feed, no teratogenic effects have been observed, Published data

By analogy

Mouse, Oral
in feed, no teratogenic effects have been observed, Published data

Benzenamine, 4,4'-sulfonylbis-

Developmental Toxicity - Rat, female, Oral
General Toxicity Maternal NOAEL: 12 mg/kg bw/day
Embryo-fetal toxicity. NOAEL F1: 30 mg/kg bw/day
Method: according to a standardized method
Gavage, no teratogenic effects have been observed, Published data

Titanium oxide (TiO₂)

Rat, Gavage
General Toxicity Maternal NOAEL: 1,000 mg/kg
Teratogenicity NOAEL: 1,000 mg/kg
Method: OECD Test Guideline 414
No effect observed on development

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

Rat, male and female, Oral
General Toxicity Maternal NOAEL: 1,000 mg/kg bw/day
Developmental Toxicity NOAEL F1: 300 mg/kg bw/day
Method: OECD Test Guideline 422
Effects on development were observed, Unpublished reports

STOT

STOT-single exposure

Wollastonite

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
Internal evaluation.

Cobalt oxide (Co₃O₄)

Routes of exposure: Inhalation, Ingestion, Skin contact
The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
Unpublished reports

Chromium oxide (Cr₂O₃)

Routes of exposure: Inhalation, Ingestion
The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
Published data, Unpublished reports

Benzenamine, 4,4'-sulfonylbis-

Target Organs: Blood
The substance or mixture is classified as specific target organ toxicant, single exposure, category 2 according to GHS criteria.
Published data

Titanium oxide (TiO₂)

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

Routes of exposure: Ingestion, Skin contact
The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

STOT-repeated exposure

Wollastonite

The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Internal evaluation.

Cobalt oxide (Co₃O₄)

The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.

Chromium oxide (Cr₂O₃)

Routes of exposure: Inhalation, Ingestion
The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Published data

Benzenamine, 4,4'-sulfonylbis-

Routes of exposure: Ingestion
Target Organs: Blood, spleen
The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2 according to GHS criteria.
Published data

Titanium oxide (TiO ₂)	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Quartz (SiO ₂)	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. No respirable material, Internal evaluation.
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Routes of exposure: Ingestion The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Wollastonite	By analogy Inhalation (Dust) 13 weeks - Rat , male and female Target Organs: Lungs Method: OECD Test Guideline 413 No irreversible effect or symptom of silicosis were observed during the inhalation toxicity tests. Unpublished reports
Cobalt oxide (Co ₃ O ₄)	Oral 90-day - Rat , male and female NOAEL: 300 mg/kg Method: OECD Test Guideline 408 Subchronic toxicity Not considered to cause serious damage to health on repeated exposure Unpublished reports category approach Inhalation (aerosol) - Mouse , male and female Inhalation (aerosol) - Rat , male and female Target Organs: Respiratory Tract, Lungs Symptoms: Inflammation Local effects Information given is based on data obtained from similar substances. Cobalt compounds Published data Unpublished reports
Chromium oxide (Cr ₂ O ₃)	Oral 90-day - Rat , male and female NOAEL: 2000 mg/kg bw/day in feed No adverse effect has been observed in toxicity tests by repeated administration Published data Inhalation (Dust) 13 weeks - Rat , male and female LOAEL: 4.4 mg/m ³ no systemic effect observed Published data
Benzenamine, 4,4'-sulfonylbis-	Oral 90-day - Rat , male and female

NOAEL: \geq 3 mg/kg

LOAEL: 30 mg/kg

Target Organs: Blood, spleen
 Method: OECD Test Guideline 408
 Symptoms: Cyanosis
 Gavage
 Published data

Titanium oxide (TiO₂)

Oral exposure No irreversible effects were observed during chronic oral toxicity tests.
 Published data

Oral 28 Days - Rat , male
 NOAEL: 24000 mg/kg bw/day
 Method: OECD Test Guideline 407
 Gavage
 Unpublished reports

Inhalation 2 y - Rat , male
 NOAEC: 0.01 mg/l
 Unpublished reports

Quartz (SiO₂)

Inhalation Target Organs: Lungs
 No respirable material
 Not considered to cause serious damage to health on repeated exposure

Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-

Oral - Rat , male and female
 NOAEL: 1000 mg/kg bw/day
 Method: OECD Test Guideline 422
 Not considered to cause serious damage to health on repeated exposure
 Unpublished reports

Experience with human exposure**Experience with human exposure : Inhalation**Cobalt oxide (Co₃O₄)

Target Organs: Respiratory system
 Symptoms: Adverse effects from repeated inhalation may include
 Asthma
 bronchoconstriction
 Cobalt compounds

Experience with human exposure : Ingestion

Benzenamine, 4,4'-sulfonylbis-

Symptoms: Methaemoglobinemia
 Cyanosis
 Published data

CMR effects**Carcinogenicity**Cobalt oxide (Co₃O₄)

Classification not possible from current data

Chromium oxide (Cr₂O₃)

Classification not possible from current data

Benzenamine, 4,4'-sulfonylbis-

Not classified as a carcinogen according to GHS criteria

Titanium oxide (TiO ₂)	Not classified as a carcinogen according to GHS criteria: the mechanism or mode of action of tumour formation is considered not relevant for humans. Considered carcinogenic to animals in certain countries.
Mutagenicity	
Cobalt oxide (Co ₃ O ₄)	Not classified as mutagen according to GHS criteria.
Chromium oxide (Cr ₂ O ₃)	Classification not possible from current data
Benzenamine, 4,4'-sulfonylbis-	Not classified as mutagen according to GHS criteria.
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Teratogenicity	
Cobalt oxide (Co ₃ O ₄)	Not classified as toxic for the reproduction (development) according to GHS criteria
Chromium oxide (Cr ₂ O ₃)	Classification not possible from current data
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Classified as toxic for the reproduction in Category 2 (development) according to GHS criteria
Reproductive toxicity	
Cobalt oxide (Co ₃ O ₄)	No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.
Chromium oxide (Cr ₂ O ₃)	Classification not possible from current data
Benzenamine, 4,4'-sulfonylbis-	Classified as toxic for the reproduction in Category 1B (fertility) according to GHS criteria
Boron, trichloro(N,N-dimethyl-1-octanamine)-, (T-4)-	Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
Aspiration toxicity	
Benzenamine, 4,4'-sulfonylbis-	Not applicable
Further information	Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several ingredients. Product dust may be irritating to eyes, skin and respiratory system. May cause sensitization by skin contact. The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco. Thermal decomposition can lead to release of toxic and corrosive gases. The exposure to decomposition products causes severe irritation of eyes, skin and mucous membranes.

SECTION 12: Ecological information**12.1 Toxicity**

Aquatic Compartment

Acute toxicity to fish	No data available
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Acute toxicity to daphnia and other aquatic invertebrates	No data available
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Toxicity to aquatic plants	No data available
Toxicity to microorganisms	No data available

Chronic toxicity to fish	No data available
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Chronic toxicity to daphnia and other aquatic invertebrates	No data available
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12.2 Persistence and degradability

<u>Abiotic degradation</u>	No data available
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<u>Physical- and photo-chemical elimination</u>	No data available
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<u>Biodegradation</u>	No data available
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12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	No data available
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Bioconcentration factor (BCF)	No data available
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12.4 Mobility in soil

Adsorption potential (Koc)	No data available
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Known distribution to environmental compartments	No data available
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12.5 Results of PBT and vPvB assessment	No data available
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12.6 Other adverse effects	No data available
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Remarks	Ecological injuries are not known or expected under normal use.
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SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations.
- Waste characterizations and compliance with applicable laws and regulations are the responsibility of the waste generator.
- Can be incinerated, when in compliance with local regulations.
- The incinerator must be equipped with a system for the neutralization or recovery of HF.

Advice on cleaning and disposal of packaging

- Empty containers can be landfilled, when in accordance with the local regulations.

SECTION 14: Transport information**49 CFR**

not regulated

TDG

not regulated

NOM

not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- Listed as active on the TSCA inventory.
Canadian Domestic Substances List (DSL)	- One or more components not listed on inventory
Canadian Non-Domestic Substances List (NDSL)	- In compliance with the inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Japan. ISHL - Inventory of Chemical Substances	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- One or more components not listed on inventory
New Zealand. Inventory of Chemical Substances	- Listed on Inventory
Taiwan. Chemical Substance Inventory (TCSI)	- Listed on Inventory
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- If product is purchased from Syensqo in Europe it is in compliance with REACH, if not please contact the supplier.

15.2 Federal Regulations

P00000019941

Version : 4.02 / US (Z8)

www.syensqo.com



US. EPA EPCRA SARA Title III**SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)**

Combustible dust	Yes
Respiratory or skin sensitization	Yes
Reproductive toxicity	Yes
Specific target organ toxicity (single or repeated exposure)	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

The following components are subject to reporting levels established by SARA Title III, Section 313. This information must be included in all SDSs that are copied and distributed for this material.

Components	CAS-No.	Concentration
Cobalt oxide (Co ₃ O ₄)	1308-06-1	1- 5%
Chromium oxide (Cr ₂ O ₃)	1308-38-9	1- 5%
Cobalt oxide (CoO)	1307-96-6	< 0.1%

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

This material does not contain any components with a CERCLA RQ.

15.3 State Regulations

- no data available

SECTION 16: Other information**Further information**

- Distribute new edition to clients

Date Prepared: 07/16/2024

Key or legend to abbreviations and acronyms used in the safety data sheet

- C: Ceiling limit
- PEL: Permissible exposure limit
- ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- STEL: Short term exposure limit
- TWA: 8-hour, time-weighted average
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.

- ADN:	European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID:	European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA:	International Air Transport Association.
- ICAO-TI:	Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG:	International Maritime Dangerous Goods.
- TWA:	Time weighted average
- ATE:	Estimated value of acute toxicity
- EC:	European Community number
- CAS:	Chemical Abstracts Service.
- LD50:	Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50:	Substance concentration causing 50% (half) death in the test animals group.
- EC50:	Effective Concentration of the substance causing the maximum of 50%.
- PBT:	Persistent, Bioaccumulative and Toxic substance.
- vPvB:	Very Persistent and Very Bioaccumulative.
- SEA:	Classification, labeling, packaging regulation
- DNEL:	Derived No Effect Level
- PNEC:	Predicted No Effect Concentration
- STOT:	Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.