# SAFETY DATA SHEET

# 622

| Version | Revision Date: | SDS Number: | Date of last issue: 10/15/2020 |
|---|---|---|---|
| 1.2 | 10/19/2022 | 215000001109 | Country / Language: US / EN |

## SECTION 1. IDENTIFICATION

Product name : 622

Product code : 000000000005549558

**Manufacturer or supplier's details**

Company : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, Pennsylvania 15275-1112

Responsible Department : (800) LANXESS
(412) 809-1000
lanxesshes@lanxess.com

Emergency telephone : CHEMTREC (800) 424-9300 or
(703) 527-3887 (Outside U.S.A) and mention CCN12916.
Lanxess Emergency Phone (800) 410-3063.

**Recommended use of the chemical and restrictions on use**

Recommended use : inorganic pigment

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Skin irritation : Category 2

Serious eye damage : Category 1

Carcinogenicity : Category 1A

Specific target organ toxicity - repeated exposure (Inhalation) : Category 1 (Lungs)

Specific target organ toxicity - repeated exposure : Category 2 (Central nervous system)

**GHS label elements**

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Causes skin irritation.
Causes serious eye damage.
May cause cancer.
Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary Statements :

**Prevention:**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

**Storage:**

Store locked up.

**Disposal:**

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

**Other hazards**

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|---|---|
| Crystalline Quartz Silica | 14808-60-7 | >= 10 - < 20 |
| Manganese Oxide | 1313-13-9 | >= 10 - < 20 |
| manganese | 7439-96-5 | >= 5 - < 10 |
| aluminium oxide | 1344-28-1 | >= 1 - < 5 |
| calcium oxide | 1305-78-8 | >= 1 - < 5 |
| magnesium oxide | 1309-48-4 | >= 1 - < 5 |
| Phosphorus Pentoxide | 1314-56-3 | >= 1 - < 5 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

## SECTION 4. FIRST AID MEASURES

If inhaled : Get medical attention immediately.
If inhaled, remove to fresh air.
If unconscious, place in recovery position and get medical attention immediately.
Maintain open airway.
Loosen tight clothing such as a collar, tie, belt or waistband.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 30 minutes.
Get medical attention immediately.
Remove contaminated clothing and shoes.
Wash contaminated clothing before re-use.

In case of eye contact : Get medical attention immediately.
In case of contact, flush eyes with plenty of water for at least 30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
Remove contact lenses, if present and easy to do. Continue rinsing.
Chemical burns must be treated promptly by a physician.

If swallowed : Get medical attention immediately.
Rinse mouth with water.
Do not induce vomiting unless directed to do by medical personnel.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
If unconscious, place in recovery position and get medical attention immediately.
Never give anything by mouth to an unconscious person.
Maintain open airway.

**Most important symptoms and effects, both acute and delayed**

| | | |
|---|---|---|
| Symptoms | : | Eye: Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.<br>Skin: Causes irritation with symptoms of reddening, itching, and swelling.<br>May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.<br>May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.<br>Adverse effects from repeated exposure may include carcinogenic effects<br>Central nervous system depression |
| Effects | : | Exposure to Silica, Quartz can cause a very serious lung disease called Silicosis with cough, shortness of breath, and changes in chest x-ray. |
| Effects | : | Causes skin irritation.<br>Causes serious eye damage.<br>May cause cancer.<br>Causes damage to organs through prolonged or repeated exposure if inhaled.<br>May cause damage to organs through prolonged or repeated exposure. |
| Protection of first-aiders | : | If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. |
| Notes to physician | : | Serious effects may be delayed following exposure.<br>Treat symptomatically. |

## SECTION 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | In case of fire, use water spray (fog), foam or dry chemical. |
| Unsuitable extinguishing media | : | None known. |
| Specific hazards during fire fighting | : | Water runoff from fire fighting may be corrosive.<br>May release toxic, irritating and/or corrosive gases. |
| Hazardous combustion products | : | Metal oxides<br>Oxides of phosphorus |
| Further information | : | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.<br>No action shall be taken involving any personal risk or without suitable training. |

| | | |
|---|---|---|
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | No action shall be taken involving any personal risk or without suitable training.<br>Put on appropriate personal protection equipment.<br>Do not touch or walk through spilled material.<br>Evacuate personnel to safe areas.<br>Keep unnecessary and unprotected personnel from entering.<br>Provide adequate ventilation.<br>Avoid breathing dust. |
| Environmental precautions | : | Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Move containers from spill area.<br>Vacuum or sweep up material and place in a designated, labeled waste container.<br>Dispose of wastes in an approved waste disposal facility. |

## SECTION 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Advice on safe handling | : | Avoid inhalation, ingestion and contact with skin and eyes.<br>Use only with adequate ventilation.<br>Remove contaminated clothing and protective equipment before entering eating areas.<br>Workers should wash hands and face before eating, drinking and smoking.<br>Put on appropriate personal protection equipment.<br>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. |
| Conditions for safe storage | : | Store in accordance with local regulations.<br>Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.<br>Keep container closed when not in use.<br>Containers that have been opened must be carefully resealed and kept upright to prevent leakage.<br>Do not store in unlabeled containers.<br>Use appropriate container to avoid environmental contamination.<br>Empty containers retain residue and can be dangerous.<br>Do not reuse container. |

Further information on storage stability : No decomposition if stored and applied as directed.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Crystalline Quartz Silica | 14808-60-7 | TWA (Respirable dust) | 0.05 mg/m3 | OSHA Z-1 |
| | | TWA (respirable) | 10 mg/m3 / %SiO2+2 | OSHA Z-3 |
| | | TWA (respirable) | 250 mppcf / %SiO2+5 | OSHA Z-3 |
| | | TWA (Respirable particulate matter) | 0.025 mg/m3 (Silica) | ACGIH |
| Manganese Oxide | 1313-13-9 | C | 5 mg/m3 (Manganese) | OSHA Z-1 |
| | | TWA (Inhalable particulate matter) | 0.1 mg/m3 (Manganese) | ACGIH |
| | | TWA (Respirable particulate matter) | 0.02 mg/m3 (Manganese) | ACGIH |
| manganese | 7439-96-5 | C (Fumes) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (Inhalable particulate matter) | 0.1 mg/m3 (Manganese) | ACGIH |
| | | TWA (Respirable particulate matter) | 0.02 mg/m3 (Manganese) | ACGIH |
| aluminium oxide | 1344-28-1 | TWA (total dust) | 15 mg/m3 | OSHA Z-1 |
| | | TWA (respirable fraction) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (Respirable particulate matter) | 1 mg/m3 (Aluminum) | ACGIH |
| calcium oxide | 1305-78-8 | TWA | 2 mg/m3 | ACGIH |
| | | TWA | 5 mg/m3 | OSHA Z-1 |
| magnesium oxide | 1309-48-4 | TWA (Inhal- | 10 mg/m3 | ACGIH |

| | | | | |
|---|---|---|---|---|
| | | able particulate matter) | | |
| | | TWA (fume, total particulate) | 15 mg/m3 | OSHA Z-1 |

**Engineering measures** : If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal protective equipment**

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended:
NIOSH approved, air-purifying particulate respirator with N-95 filters.

Hand protection
Material : Permeation resistant gloves.

Eye protection : Tightly fitting safety goggles

Skin and body protection : Wear suitable protective clothing.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Appropriate techniques should be used to remove potentially contaminated clothing.
Wash contaminated clothing before reusing.
Ensure that eyewash stations and safety showers are close to the workstation location.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Physical state : solid

Color : brown

Odor : odorless

Odor Threshold : No data available

| | | |
|---|---|---|
| pH | : | No data available |
| Melting point/range | : | No data available |
| Boiling point/boiling range | : | No data available |
| Flash point | : | Not applicable |
| Evaporation rate | : | No data available |
| Self-ignition | : | Autoignition temperature<br>Not applicable |
| Burning number | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | Not applicable |
| Relative density | : | No data available |
| Density | : | No data available |
| Bulk density | : | 300 - 1,000 kg/m3 |
| Solubility(ies) | | |
| Water solubility | : | slightly soluble |
| Solubility in other solvents | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, dynamic | : | Not applicable |
| Viscosity, kinematic | : | No data available |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : | The product is chemically stable. |
| Possibility of hazardous reactions | : | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : | No specific data. |
| Incompatible materials | : | No specific data. |
| Hazardous decomposition products | : | No decomposition if stored and applied as directed. |

## SECTION 11. TOXICOLOGICAL INFORMATION

The most important known symptoms and effects are described in Section 2 and/or Section 4.

**Information on likely routes of exposure**

Inhalation
Ingestion
Eye contact
Skin contact

**Acute toxicity**

Not classified based on available information.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 5,000 mg/kg<br>Method: Calculation method |

**Components:**

**manganese:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg |

**aluminium oxide:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 401 |

**calcium oxide:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat, female): > 5,000 mg/kg<br>Method: OECD Test Guideline 425<br>GLP: yes |

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

**magnesium oxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Components:**

**Manganese Oxide:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Exposure time | : | 4 h |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |
| GLP | : | yes |

**aluminium oxide:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | No skin irritation |

**calcium oxide:**

Result : Irritating to skin.

**Phosphorus Pentoxide:**

Assessment : Causes severe burns.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Manganese Oxide:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Exposure time | : | 72 h |
| Method | : | OECD Test Guideline 405 |
| GLP | : | yes |

**aluminium oxide:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |

**calcium oxide:**

Result : Risk of serious damage to eyes.

**Respiratory or skin sensitization**

**Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Components:**

**Manganese Oxide:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Routes of exposure | : | Skin contact |
| Species | : | Mouse |
| Method | : | OECD Test Guideline 429 |
| Result | : | Did not cause sensitization on laboratory animals. |
| GLP | : | yes |

**aluminium oxide:**

| | | |
|---|---|---|
| Test Type | : | Draize Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Result | : | Did not cause sensitization on laboratory animals. |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Manganese Oxide:**

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (female)
Cell type: In red blood cells
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

**aluminium oxide:**

Genotoxicity in vitro : Test system: Bacteria
Method: OECD Test Guideline 471
Result: negative

**Phosphorus Pentoxide:**

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes
Remarks: Test results on an analogous product

Test Type: Ames test
Test system: Escherichia coli
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes
Remarks: Test results on an analogous product

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Test results on an analogous product

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

**Carcinogenicity**

May cause cancer.

**Components:**

**Crystalline Quartz Silica:**

Result : Excessive exposure to airborne crystalline silica can cause fibrotic lung damage, with scarring of the lungs with cough and shortness of breath. This is called "Silicosis". This is generally a slowly developing fibrotic disease as symptoms are usually delayed for 10 years or more. Symptoms are dyspnea, chest pain, breathlessness, and cough. The chronic lung scarring developed from the silica dust causes a progressive massive fibrosis. This may lead to increased susceptibility to tuberculosis.

| | | |
|---|---|---|
| **IARC** | Group 1: Carcinogenic to humans<br>Crystalline Quartz Silica<br>(Silica dust, crystalline) | <br>14808-60-7<br> |
| **OSHA**<br>**NTP** | Known to be human carcinogen<br>Crystalline Quartz Silica<br>(Silica, Crystalline (Respirable Size)) | <br>14808-60-7<br> |

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Manganese Oxide:**

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat, female
Application Route: inhalation (dust/mist/fume)
Frequency of Treatment: 6 hours/day
General Toxicity Maternal: NOAEL: 5 mg/m³
Developmental Toxicity: NOAEL: 15 mg/m³
Method: OECD Test Guideline 414
GLP: yes

**calcium oxide:**

Effects on fetal development : Species: Rat
Application Route: Oral
Duration of Single Treatment: 10 d
Developmental Toxicity: NOAEL: >= 680 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic potential.
GLP: no

Species: Mouse
Application Route: Oral
Duration of Single Treatment: 10 d
General Toxicity Maternal: NOAEL: >= 440 mg/kg body weight
Developmental Toxicity: NOAEL: >= 440 mg/kg body weight
Method: OECD Test Guideline 414
GLP: no

**STOT-single exposure**

Not classified based on available information.

**Components:**

**aluminium oxide:**

Assessment : May cause respiratory irritation.

**calcium oxide:**

Assessment : May cause respiratory irritation.

**magnesium oxide:**

Assessment : May cause respiratory irritation.

**STOT-repeated exposure**

Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

**Components:**

**Crystalline Quartz Silica:**

Routes of exposure : Inhalation
Target Organs : Lungs
Assessment : Causes damage to organs through prolonged or repeated exposure.

**Manganese Oxide:**

Routes of exposure : Inhalation
Target Organs : Brain
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

**manganese:**

Target Organs : Central nervous system
Assessment : May cause damage to organs through prolonged or repeated exposure.

**aluminium oxide:**

| | | |
|---|---|---|
| Routes of exposure | : | Inhalation |
| Target Organs | : | Lungs |
| Assessment | : | May cause damage to organs through prolonged or repeated exposure. |

**Repeated dose toxicity**

**Components:**

**magnesium oxide:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | < 1,120 mg/m³ |
| Application Route | : | Inhalation |
| Exposure time | : | 29 d |
| Remarks | : | Chronic toxicity |

**Aspiration toxicity**

Not classified based on available information.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**Manganese Oxide:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC0 (Oncorhynchus mykiss (rainbow trout)): > 0.073 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 203<br>GLP: yes<br>Remarks: Fresh water<br>No toxicity at the limit of solubility. |
| Toxicity to daphnia and other aquatic invertebrates | : | EC0 (Daphnia magna (Water flea)): > 0.073 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 202<br>GLP: yes<br>Remarks: Fresh water<br>No toxicity at the limit of solubility. |
| Toxicity to algae/aquatic plants | : | ErC50 (Desmodesmus subspicatus (green algae)): > 0.073 mg/l<br>End point: Growth rate<br>Exposure time: 72 h |

Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
Remarks: Fresh water
No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (Water flea)): 0.0073 mg/l
Exposure time: 8 d
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes
Remarks: Fresh water

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
End point: Respiration inhibition
Exposure time: 3 h
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: Fresh water
nominal concentration

NOEC (activated sludge): 1,000 mg/l
End point: Respiration inhibition
Exposure time: 3 h
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: Fresh water
nominal concentration

**Ecotoxicology Assessment**

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

**manganese:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 1,000 mg/l
Exposure time: 48 h

**aluminium oxide:**

Toxicity to fish : LC50 (Salmo trutta (brown trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

**calcium oxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 50.6 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 49.1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC10 (Pseudokirchneriella subcapitata (microalgae)): 79.22 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

EC50 (Pseudokirchneriella subcapitata (microalgae)): 184.57 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

Toxicity to microorganisms : EC10 (activated sludge): 300.4 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
GLP: yes

**magnesium oxide:**

Toxicity to fish : LC50 (Fish): > 10,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h

**Phosphorus Pentoxide:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Test Type: static test

Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes
Remarks: Fresh water

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 66.5 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
Remarks: Fresh water

NOEC (Desmodesmus subspicatus (green algae)): 25 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
Remarks: Fresh water

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
End point: Respiration inhibition
Exposure time: 3 h
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: Fresh water

**Persistence and degradability**

**Components:**

**Manganese Oxide:**

Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

**manganese:**

Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

**aluminium oxide:**

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

**magnesium oxide:**

Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

**Phosphorus Pentoxide:**

Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Waste from residues : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**
Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

**Domestic regulation**

**49 CFR**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 3077 |
| Proper shipping name | : | Environmentally hazardous substance, solid, n.o.s. (ARSENIC, LEAD) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| | : |  |
| ERG Code | : | 171 |
| RQ | : | 2,403.85 lb |
| Marine pollutant | : | no |

When in individual containers of less than the Product RQ, this material ships as non-regulated.
**Hazard and Handling Notes.**
Risk of serious damage to eyes, Keep separated from foodstuffs

**Special precautions for user**
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

**CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|
| arsenic | 7440-38-2 | 1 | 2403 |
| lead | 7439-92-1 | 10 | 29940 |

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Carcinogenicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|---|---|---|
| Manganese Oxide | 1313-13-9 | >= 10 - < 20 % |
| manganese | 7439-96-5 | >= 5 - < 10 % |
| aluminium oxide | 1344-28-1 | >= 1 - < 5 % |

**US State Regulations**

**Massachusetts Right To Know**

| | | |
|---|---|---|
| Crystalline Quartz Silica | 14808-60-7 | 10 - 20 |
| manganese | 7439-96-5 | 5 - 10 |
| aluminium oxide | 1344-28-1 | 1 - 5 |
| calcium oxide | 1305-78-8 | 1 - 3 |
| magnesium oxide | 1309-48-4 | 1 - 5 |
| Phosphorus Pentoxide | 1314-56-3 | 1 - 3 |
| arsenic | 7440-38-2 | < 1 |
| chromium | 7440-47-3 | < 1 |
| Cadmium | 7440-43-9 | < 1 |

**Pennsylvania Right To Know**

| | | |
|---|---|---|
| Umber | 12713-03-0 | > 1 |
| Crystalline Quartz Silica | 14808-60-7 | 10 - 20 |
| Manganese Oxide | 1313-13-9 | 10 - 20 |
| manganese | 7439-96-5 | 5 - 10 |
| water | 7732-18-5 | > 1 |
| aluminium oxide | 1344-28-1 | 1 - 5 |
| calcium oxide | 1305-78-8 | 1 - 3 |
| magnesium oxide | 1309-48-4 | 1 - 5 |
| Phosphorus Pentoxide | 1314-56-3 | 1 - 3 |

**California Prop. 65**

Any chemical(s) listed above which do not appear elsewhere on this SDS are contained in this product at concentrations below 0.1%.

Any chemical(s) listed above which do not appear elsewhere on this SDS are contained in this product at concentrations below 0.1%. Potential exposure to some or all of the California Proposition 65 chemicals in this product have been determined to be below the No Significant Risk Level (NSRL).

WARNING: This product can expose you to chemicals including Crystalline Quartz Silica, arsenic, lead, chromium, Cadmium, which is/are known to the State of California to cause cancer, and lead, chromium, Cadmium, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Any chemical(s) listed above which do not appear elsewhere on this SDS are contained in this product at concentrations below 0.1%.

Any chemical(s) listed above which do not appear elsewhere on this SDS are contained in this product at concentrations below 0.1%. Potential exposure to some or all of the California Proposition 65 chemicals in this product have been determined to be below the No Significant Risk Level (NSRL).

**TSCA inventory**

TSCA : This material is included in the TSCA Inventory as a naturally occuring chemical substance as described in 40 CFR 710.4 (b).

**TSCA list**

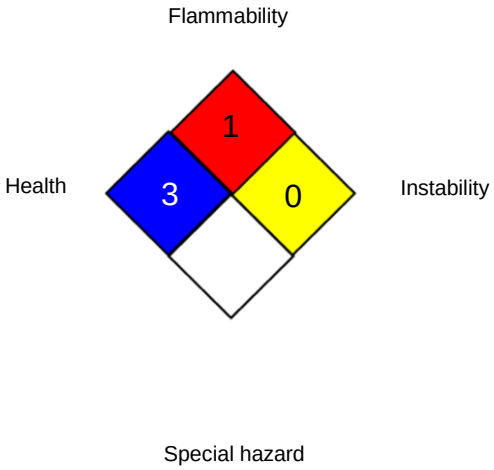
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

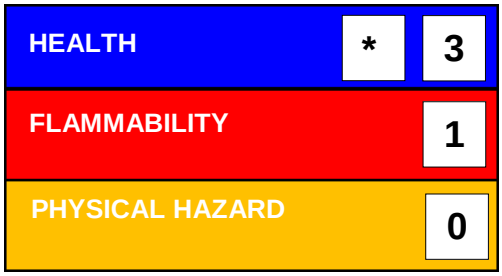
## SECTION 16. OTHER INFORMATION

**Further information**

**NFPA 704:**




**HMIS® IV:**




HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| OSHA Z-3 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts |
| ACGIH / TWA | : | 8-hour, time-weighted average |

| | | |
|---|---|---|
| OSHA Z-1 / TWA | : | 8-hour time weighted average |
| OSHA Z-1 / C | : | Ceiling |
| OSHA Z-3 / TWA | : | 8-hour time weighted average |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 10/19/2022

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered to be a guidance for processing and does not contain any warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.