



SAFETY DATA SHEET

1. Identification

Product identifier Flosan
Recommended use For Industrial Use Only
Recommended restrictions Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Manufacturer/Supplier information

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2. Hazard(s) identification

| | | |
|------------------------------|-----------------|-------------|
| Physical hazards | Not classified | |
| Health hazards | Carcinogenicity | Category 1A |
| Environmental hazards | Not classified | |
| OSHA defined hazards | Not classified | |

Label elements



| | |
|--------------------------------|--|
| Signal word | Danger |
| Hazard Statement | May cause cancer. |
| Precautionary statement | |
| Prevention | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection. |
| Response | If concerned: Get medical advice/attention. |
| Storage | Store locked up. |

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|--|--|
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations |
| Hazard(s) not otherwise Classified (HNOC) | None Known. |
| Supplemental information | Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations. |

3. Composition/information on ingredients

| Chemical Name | Common Name/Synonyms | CAS Number | % |
|--|----------------------|------------|---|
| Quartz (SiO ₂) | | 14808-60-7 | * |
| Aluminum Oxide (Non-Fibrous) | | 1344-28-1 | * |
| Carbon | | 1333-86-4 | * |
| Chrome Ore | | 1308-31-2 | * |
| Iron Oxide | | 1309-37-1 | * |
| Magnesium Oxide | | 1309-48-4 | * |
| Other components below reportable levels | | | * |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|---------------------|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Do not rub eyes. Flush eyes immediately with water for at least 15 minutes. Get medical attention if irritation develops and persists. |
| Ingestion | Unlikely route of exposure. If ingested in sufficient quantity and victim is conscious, give 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention. |

Most important symptoms/effects, acute and delayed

Dusts may irritate the respiratory tract, skin and eyes. Coughing.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

If concerned: Get medical advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

Not available.

Specific hazards arising from the chemical

Not available.

Special protective equipment and precautions for firefighters

Wet material should be kept out of eyes and off skin in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Material does not give off toxic fumes in a fire unless molten.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not breathe dust. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| <i>Components</i> | <i>Type</i> | <i>Value</i> | <i>Form</i> |
|---|-------------|---|----------------------|
| Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1) | PEL | 5 mg/m ³ | Respirable fraction. |
| Carbon (CAS 1333-86-4) | PEL | 15mg/m ³ 3.5mg/m ³ | Total dust. |
| Chrome Ore (as Cr) (CAS 1308-31-2) | PEL | 1 mg/m ³ | |

US. OSHA Table Z-3 (29 CFR 1910.1000)

| <i>Components</i> | <i>Type</i> | <i>Value</i> | <i>Form</i> |
|--|-------------|---|---|
| Quartz (SiO₂) (CAS 14808-60-7) | TWA | 0.3 mg/m ³ 0.1 mg/m ³ 2.4 mppcf | Total dust. Respirable. Respirable. |

US. ACGIH Threshold Limit Values

| <i>Components</i> | <i>Type</i> | <i>Value</i> | <i>Form</i> |
|---|-------------|-------------------------|----------------------|
| Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1) | TWA | 1 mg/m ³ | Respirable fraction. |
| Carbon (CAS 1333-86-4) | TWA | 3 mg/m ³ | Inhalable fraction. |
| Quartz (SiO₂) (CAS 14808-60-7) | TWA | 0.025 mg/m ³ | Respirable fraction. |
| Chrome Ore (as Cr) (CAS 1308-31-2) | TWA | 0.5 mg/m ³ | |

US. NIOSH: Pocket Guide to Chemical Hazards

| <i>Components</i> | <i>Type</i> | <i>Value</i> | <i>Form</i> |
|--|-------------|------------------------|------------------|
| Carbon (CAS 1333-86-4) | TWA | 0.1 mg/m ³ | |
| Quartz (SiO₂) (CAS 14808-60-7) | TWA | 0.05 mg/m ³ | Respirable dust. |
| Chrome Ore (as Cr) (CAS 1308-31-2) | TWA | 0.5 mg/m ³ | |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure

limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical respirator with organic vapor cartridge, full face piece, dust and mist filter.

Skin protection

- Hand protection
- Other

Wear appropriate chemical resistant gloves.
Use of an impervious apron is recommended.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.



General Hygiene Considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

- Physical state: Solid.
- Form: Solid Powder.
- Color: Not available.

Odor: Not available.

Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: Not available.

Initial boiling point and boiling range: Not available.

Flash point: Not available.

Evaporation rate: Not available.

Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%): Not available.

Flammability limit - upper (%): Not available.

Explosive limit - lower (%): Not available.

Explosive limit - upper (%): Not available.

Vapor pressure: Not available.

| | |
|---|----------------|
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

10. Stability and reactivity

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|------------------------------------|--|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Powerful oxidizers. Chlorine. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure. Contact your sales representative for clarification. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

| | |
|---|---|
| Information on likely routes of exposure | |
| Inhalation | Dust may irritate respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | Dust or powder may irritate the skin. |
| Eye contact | Dust may irritate the eyes. |
| Ingestion | Expected to be a low ingestion hazard. |
| Symptoms related to the physical, chemical and toxicological characteristics: | Dusts may irritate the respiratory tract, skin and eyes. Coughing. |
| Information on toxicological effects | |
| Acute toxicity | Not available. |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not a respiratory sensitizer. |
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However, in making the |

overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon (CAS 1333-86-4) 2B Possibly carcinogenic to humans.
 Quartz (SiO2) (CAS 14808-60-7) 1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Quartz (SiO2) (CAS 14808-60-7) Known To Be Human Carcinogen.

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

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Developmental effects

Quartz (SiO2) 0

Developmental effects - EU category

Quartz (SiO2) 0

Embryo toxicity

Quartz (SiO2) 0

Reproductively

Quartz (SiO2) 0

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Eco toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this product.

Bio accumulative potential No data available.

Mobility in soil No data available.
Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Hazardous waste code

Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

Waste from residues / unused products

Not available.

Contaminated packaging

Not available.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

One or more components are not listed on TSCA.

All chemical substances in this product are listed on the TSCA chemical substance inventory where required.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

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

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous Chemical No

SARA 313 (TRI reporting)

| <i>Chemical Name</i> | <i>CAS number</i> | <i>% by wt.</i> |
|-------------------------------------|-------------------|-----------------|
| Aluminum Oxide (Non-Fibrous) | 1344-28-1 | * |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not Regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

Carbon (CAS 1333-86-4)

Quartz (SiO₂) (CAS 14808-60-7)

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

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

Carbon (CAS 1333-86-4)

Quartz (SiO₂) (CAS 14808-60-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

Carbon (CAS 1333-86-4)

Quartz (SiO₂) (CAS 14808-60-7)

US. Rhode Island RTK

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

US. California Proposition 65

This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Carbon (CAS 1333-86-4)

Listed: February 21, 2003

Quartz (SiO₂) (CAS 14808-60-7)

Listed: October 1, 1988

International Inventories

| <i>Country(s) or region</i> | <i>Inventory name</i> | <i>On inventory (yes/no) *</i> |
|--|--|--------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

This information is supplied to be informative and to alert the user of the material. The ultimate compliance with federal, state, and/or local regulations concerning the use of this material, or compliance with respects to products liability, rest solely upon the purchaser thereof.

Prepared by: FRC Global
Date: October 2020

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End of Safety Data Sheet