SAFETY DATA SHEET

1. Identification

Product identifier	Flosan 2000 Series
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

Company name: FRC Global
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Suite 1200 #3008
Wilmington, DE 19801
Product Support/Technical Services
Phone: (514) 931-5711
Website www.FRCglobal.com

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Contact E-Mail: LadleDr@FRCglobal.com

2. Hazard(s) identification

Physical hazards	Not classified.	
Heath 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.

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	*
Iron Oxide		1309-37-1	*
Magnesium Oxide		1309-48-4	*
Calcium Oxide		1305-78-8	*

*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 your eyes. Flush your 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 the victim is conscious, give 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Leave the 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

Dust 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 the 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, and wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. The material does not give off toxic fumes in a fire unless it is 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 a HEPA filter. Large Spills: Wet down with water and dike for later disposal. Shovel the material into a waste container. Avoid the generation of dust during clean-up. Following product recovery, flush the area with water. Small Spills: Sweep up or vacuum up spillage and collect it in a 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 the 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)

Components	*Type*	*Value*	*Form*
Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
Calcium Oxide (CAS 1305-78-8)	PEL	5mg/m3	

US OSHA Table Z-3 (29 CFR 1910.1000)

Components	*Type*	*Value*	*Form*
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.3 mg/m3 0.1 mg/m3 2.4 mppcf	Total dust. Respirable. Respirable.

US ACGIH Threshold Limit Values

Components	*Type*	*Value*	*Form*
Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Calcium Oxide (CAS 1305-78-8)	TWA	2 mg/m3	

US NIOSH: Pocket Guide to Chemical Hazards

Components	*Type*	*Value*	*Form*
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
Calcium Oxide (CAS 1305-78-8)	TWA	2 mg/m3	

Biological limit values No biological exposure limits were 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 facepiece, dust and mist filter.
Skin protection	
Hand protection	Wear appropriate chemical-resistant gloves.
Other	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

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 is 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 the 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:

Dust 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 the 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 is 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 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, silicate 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

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
Embryotoxicity	
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

Ecotoxicity	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 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)

Chemical Name	*CAS number*	*% by wt.*
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)
Quartz (SiO2) (CAS 14808-60-7)
Calcium Oxide (CAS 1305-78-8)

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

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)
Quartz (SiO2) (CAS 14808-60-7)
Calcium Oxide (CAS 1305-78-8)

US Pennsylvania Worker and Community Right-to-Know Law

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)
Quartz (SiO2) (CAS 14808-60-7)
Calcium Oxide (CAS 1305-78-8)

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

Quartz (SiO2) (CAS 14808-60-7) Listed: October 1, 1988

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 respect to product liability, rests solely upon the purchaser thereof.

Prepared by: FRC Global
Date: October 2020

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End of Safety Data Sheet