SAFETY DATA SHEET

1. Identification

Product identifier Epic®

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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Wilmington, DE 19801
Product Support/Technical Services
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Contact E-Mail: LadleDr@FRCglobal.com

2. Hazard(s) identification

Classified hazards This item is defined as an article per OSHA (29 CFR 1910.1200) and is therefore exempt from labeling. A Safety Data Sheet is available.
This item is not hazardous per OSHA 29 CFR 1910.1200(c). However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. May cause respiratory irritation, lung injury, or cancer by inhalation. Limit skin contact. Wash hands after handling. Dispose of waste and residues in accordance with local authority requirements. Wear protective gloves, protective clothing, and eye protection. Dust may cause cancer.

Label elements This item is defined as an article per OSHA (29 CFR 1910.1200) and is therefore exempt from labeling. A Safety Data Sheet is available.
This item is not hazardous per OSHA 29 CFR 1910.1200(c). However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. May cause respiratory irritation, lung injury, or cancer by inhalation. Limit skin contact. Wash hands after handling. Dispose of waste and

residues in accordance with local authority requirements. Wear protective gloves, protective clothing, and eye protection. Dust may cause cancer.

Hazard(s) not otherwise classified (HNOC)

This item is defined as an article per OSHA (29 CFR 1910.1200) and is therefore exempt from labeling. A Safety Data Sheet is available.
This item is not hazardous per OSHA 29 CFR 1910.1200(c). However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. May cause respiratory irritation, lung injury, or cancer by inhalation. Limit skin contact. Wash hands after handling. Dispose of waste and residues in accordance with local authority requirements.

3. Composition/information on ingredients

Chemical Name	Common Name/Synonyms	CAS Number	%
Aluminum Oxide (Non-Fibrous)		1344-28-1	*
Mullite		1302-93-8	*
Cristobalite		14464-46-1	*
Silicon Dioxide		7631-86-9	*
Quartz (SiO_2)		14808-60-7	*
Titanium Dioxide		13463-67-7	*

*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 Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Direct contact with the eyes may cause temporary irritation.

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

Not available.

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. 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. Following product recovery, flush the area with water. 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. Keep the formation of airborne dust to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. It 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 away from incompatible materials. (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limit

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/m^3	Respirable fraction.
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m^3	Total Dust.

US OSHA Table Z-3 (29 CFR 1910.1000)

Components	*Type*	*Value*	*Form*
Cristobalite (CAS 14464-46-1)	TWA	0.15 mg/m^3 0.05 mg/m^3 1.2 mppcf	Total dust. Respirable. Respirable.
Quartz (SiO_2) (CAS 14808-60-7)	TWA	.03 mg/m^3	Total dust.
Silicon Dioxide (CAS 7631-86-9)	TWA	0.8 mg/m^3 20 mppcf	

US ACGIH Threshold Limit Values

Components	*Type*	*Value*	*Form*
Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	1 mg/m^3	Respirable fraction.
Cristobalite (CAS14464-46-1)	TWA	0.025 mg/m^3	Respirable fraction.
Mullite (CAS 1302-93-8)	TWA	1 mg/m^3	Respirable fraction.
Quartz (14808-60-7)	TWA	1 mg/m^3	Respirable fraction.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m^3	Respirable fraction.

US NIOSH: Pocket Guide to Chemical Hazards

Components	*Type*	*Value*	*Form*
Cristobalite (CAS 14464-46-1)	TWA	3 fibers/cm^3 3 fibers/cm^3 5 mg/m^3 5 mg/m^3	Fiber. Dust. Fiber, total. Fiber, total dust.
Quartz (14808-60-7)	TWA	.05 mg/m^3	Respirable dust.
Silicon Dioxide (CAS 7631-86-9)	TWA	6 mg/m^3	

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.

Individual protection measures, such as personal protective equipment

Eye/face protection	If contact is likely, wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical-resistant gloves.
Other	Wear suitable protective clothing. 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.
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	Fluorine. 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	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with the eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical, and toxicological characteristics:

Direct contact with the eyes may cause temporary irritation.

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 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, silicate dust, and organic fibers, 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. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cristobalite (CAS 14464-46-1)	1 Carcinogenic to humans.
Silicon Dioxide (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
Quartz (SiO_2) (CAS 14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

US National Toxicology Program (NTP) Report on Carcinogens

Cristobalite (CAS 14464-46-1)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Quartz (SiO_2) (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.

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	Not applicable.
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 not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. 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

Not listed.

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)
Cristobalite (CAS 14464-46-1)
Quartz (SiO_2) (CAS 14808-60-7)
Silicon Dioxide (CAS 7631-86-9)
Titanium Dioxide (CAS 13463-67-7)

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

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)
Cristobalite (CAS 14464-46-1)
Quartz (SiO_2) (CAS 14808-60-7)
Silicon Dioxide (CAS 7631-86-9)
Titanium Dioxide (CAS 13463-67-7)

US Pennsylvania Worker and Community Right-to-Know Law

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)
Cristobalite (CAS 14464-46-1)
Quartz (SiO_2) (CAS 14808-60-7)
Silicon Dioxide (CAS 7631-86-9)
Titanium Dioxide (CAS 13463-67-7)

US Rhode Island RTK

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

US California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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

Quartz (SiO_2) (CAS 14808-60-7)	Listed: October 1, 1988
Titanium Dioxide (CAS 13463-67-7)	Listed: September 2, 2011

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