

ISSUE DATE 8/20/2019
REVIEWED ON 8/20/2019

SAFETY DATA SHEET

OSHA HAZCOM STANDARD 29 CFR 1910.1200(G) AND GHS REV 03



SILICA FUME

**BRIGHT WHITE AMORPHOUS SILICA FUME
WITH LOW IMPURITY LEVEL**

**40 GROSSETT DRIVE, SUITE 200, KIRKWOOD, NY 13795
1 (800) 475-1975 • (607) 775-1948 • WWW.TRINIC.US • @TRINICLLC**   

1. IDENTIFICATION

PRODUCT IDENTIFIER

- **Trade Name:** Silica Fume
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** No further relevant information available.

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Manufacturer/Supplier:

Trinic LLC.
40 Grosset Drive, Suite 200
Kirkwood, NY 13795
www.TRINIC.us
(800) 475-1975 - toll free (US only)

Emergency telephone number:

Chemtrec (US): (800) 424-9300
Chemtrec (outside US): (703) 527-3887 (collect calls accepted)

2. HAZARD(S) IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE



STOT SE 3

H335 May cause respiratory irritation.

LABEL ELEMENTS

- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard-determining components of labeling:**
Silica-Amorphous Silica fume
Aluminium Oxide
- **Hazard statements:**
H335 - May cause respiratory irritation.

2. HAZARD(S) IDENTIFICATION (CONT.)

- **Precautionary statements:**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 - Use only outdoors or in a well-ventilated area.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a poison center/doctor if you feel unwell.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

UNKNOWN ACUTE TOXICITY

This value refers to knowledge of known, established toxicological or ecotoxicological values. 93.6 % of the mixture consists of component(s) of unknown toxicity.

CLASSIFICATION SYSTEM

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

- **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 0

Fire = 0

Physical Hazard = 0

HAZARD(S) NOT OTHERWISE CLASSIFIED (HNOC)

None known

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL CHARACTERIZATION

Mixtures

DESCRIPTION

Mixture of substances listed below with non-hazardous additions.

DANGEROUS COMPONENTS			
CAS: 69012-64-2	Silica-Amorphous Silica fume	⚠ STOT SE 3, H335	60 - 90%
CAS: 1314-23-4 RTECS: ZH8800000	Zirconium oxide		2 - 12%
CAS: 1344-28-1 RTECS: BD 1200000	Aluminium Oxide	⚠ STOT SE 3, H335	2 - 12%

ADDITIONAL INFORMATION

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

- **General information:** Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.
- **After inhalation:** Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in the side position for transportation.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:** If eye irritation occurs, consult a doctor. Rinse opened eye for several minutes under running water.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No further relevant information available.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No further relevant information available.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

No further relevant information available.

ADVICE FOR FIREFIGHTERS

- **Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Not required.

ENVIRONMENTAL PRECAUTIONS

No special measures required.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

REFERENCE TO OTHER SECTIONS

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

PROTECTIVE ACTION CRITERIA FOR CHEMICALS

- **PAC-1:**

69012-64-2	Silica-Amorphous Silica fume	45 mg/m ³
1314-23-4	Zirconium oxide	14 mg/m ³
1344-28-1	Aluminium Oxide	15 mg/m ³

6. ACCIDENTAL RELEASE MEASURES (CONT.)

- **PAC-2:**

69012-64-2	Silica-Amorphous Silica fume	500 mg/m ³
1314-23-4	Zirconium oxide	110 mg/m ³
1344-28-1	Aluminium Oxide	170 mg/m ³

- **PAC-3:**

69012-64-2	Silica-Amorphous Silica fume	3,000 mg/m ³
1314-23-4	Zirconium oxide	680 mg/m ³
1344-28-1	Aluminium Oxide	990 mg/m ³

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

- Avoid creating and breathing dust/fume/gas/mist/vapors/spray.
- Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

SPECIFIC END USE(S)

No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL SYSTEMS:

No further data; see section 7.

CONTROL PARAMETERS

COMPONENTS WITH OCCUPATIONAL EXPOSURE LIMITS	
69012-64-2 SILICA-AMORPHOUS SILICA FUME	
TLV	TLV withdrawn
1314-23-4 ZIRCONIUM OXIDE	
PEL	Long-term value: 5 mg/m ³ as Zr
REL	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr
TLV	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr
1344-28-1 ALUMINIUM OXIDE	
PEL	Long-term value: 15*; 5** mg/m ³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m ³ as Al; *as respirable fraction

ADDITIONAL INFORMATION

The lists that were valid during the creation of this SDS were used as basis.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT.)

EXPOSURE CONTROLS

GENERAL PROTECTIVE AND HYGIENIC MEASURES

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing and wash before reuse.
- Wash hands before breaks and at the end of work.

PERSONAL PROTECTIVE EQUIPMENT

- **Breathing equipment:**



NIOSH/OSHA or EN approved respiratory protection is recommended for use in airborne concentrations exceeding exposure limits.

- **Protection of hands:** Not required
Material of gloves: Not applicable
Penetration time of glove material: Not applicable
- **Eye protection:** Not required

LIMITATION AND SUPERVISION OF EXPOSURE INTO THE ENVIRONMENT

None

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:**
 - Form: Powder
 - Color: White
- **Odor:** Slight
- **Odor threshold:** Not determined
- **pH-value:** Not applicable
- **Change in condition:**
 - Melting point/Melting range: Not determined
 - Boiling point/Boiling range: Not determined
- **Flash point:** None

9. PHYSICAL AND CHEMICAL PROPERTIES (CONT.)

• Flammability (solid, gaseous):	Not determined
• Ignition temperature:	Not applicable
• Decomposition temperature:	Not determined
• Auto igniting:	Product is not self-igniting
• Danger of explosion:	Product does not present an explosion hazard
• Explosion limits:	
Lower:	Not determined
Upper:	Not determined
• Vapor pressure:	Not applicable
• Density @ 20°C (68°F):	2.7822 g/cm ³ (23.2175 lbs/gal)
Bulk density:	2,588.1 kg/m ³
Relative density:	Not determined
Vapor density:	Not applicable
Evaporation rate:	Not applicable
• Solubility in / Miscibility with:	
Water:	Insoluble
• Partition coefficient (n-octanol/water):	Not determined
• Viscosity:	
Dynamic:	Not applicable
Kinematic:	Not applicable
• Solvent content:	
VOC content:	0.00 %
Solids content:	100.0 %

OTHER INFORMATION

No further relevant information available.

10. STABILITY AND REACTIVITY

REACTIVITY

No further relevant information available.

CHEMICAL STABILITY

THERMAL DECOMPOSITION / CONDITIONS TO BE AVOIDED

No decomposition if used according to specifications.

POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reactions known.

CONDITIONS TO AVOID

No further relevant information available.

INCOMPATIBLE MATERIALS

No further relevant information available.

HAZARDOUS DECOMPOSITION PRODUCTS

No dangerous decomposition products known.

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

- Acute toxicity:

LD/LC50 VALUES THAT ARE RELEVANT FOR CLASSIFICATION		
1314-23-4 ZIRCONIUM OXIDE		
Inhalative	LC50 / 96 hours	>100 mg/l (Zebra fish)
1344-28-1 ALUMINIUM OXIDE		
Oral	LD50	>10,000 mg/kg (Rat)
Inhalative	LC50 / 4 h	>2.6 mg/l (Rat)

11. TOXICOLOGICAL INFORMATION (CONT.)

- **Primary irritant effect:**
On the skin: No irritating effect.
On the eye: No irritating effect.
- **Additional toxicological information:** The product shows the following dangers according to internally approved calculation methods for preparations:
 Irritant
- **Carcinogenic categories:**
IARC (International Agency for Research on Cancer)
 Group 1 - Carcinogenic to humans
 Group 2A - Probably carcinogenic to humans
 Group 2B - Possibly carcinogenic to humans
 Group 3 - Not classifiable as to its carcinogenicity to humans
 Group 4 - Probably not carcinogenic to humans

69012-64-2	Silica-Amorphous Silica fume	3
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- **NTP (National Toxicology Program):** None of the ingredients are listed.
- **OSHA-Ca (Occupational Safety & Health Administration):** None of the ingredients are listed.

12. ECOLOGICAL INFORMATION

TOXICITY

- **Aquatic toxicity:** No further relevant information available.

PERSISTENCE AND DEGRADABILITY

No further relevant information available.

BIOACCUMULATIVE POTENTIAL

No further relevant information available.

MOBILITY IN SOIL

No further relevant information available.

12. ECOLOGICAL INFORMATION (CONT.)**ADDITIONAL ECOLOGICAL INFORMATION**

- **General notes:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment:**
PBT: Not applicable.
vPvB: Not applicable.
- **Other adverse effects:** No further relevant information available.

13. DISPOSAL CONSIDERATIONS**WASTE TREATMENT METHOD RECOMMENDATION**

Observe all federal, state and local environmental regulations when disposing of this material.

UNCLEANED PACKAGING RECOMMENDATION

Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

- **UN-Number:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **UN proper shipping name:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **Transport hazard class(es):**
DOT, ADR/ADN, ADN, IMDG, IATA Class Non-Regulated Material
- **Packing group:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION)

- **Section 355 (extremely hazardous substances):** None of the ingredients are listed.
- **Section 313 (Specific toxic chemical listings):**
1344-28-1 Aluminium Oxide
- **TSCA (Toxic Substances Control Act):** All components have the value ACTIVE.
- **Hazardous Air Pollutants:** None of the ingredients are listed.

CALIFORNIA PROPOSITION 65

- **Chemicals known to cause cancer:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for females:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for males:** None of the ingredients are listed.
- **Chemicals known to cause developmental toxicity:** None of the ingredients are listed.
- **New Jersey Right-to-Know List:**
69012-64-2 Silica-Amorphous Silica fume
1344-28-1 Aluminium Oxide
- **New Jersey Special Hazardous Substance List:** None of the ingredients are listed.
- **Pennsylvania Right-to-Know List:**
1344-28-1 Aluminium Oxide
- **Pennsylvania Special Hazardous Substance List:**
1344-28-1 Aluminium Oxide E

CARCINOGENIC CATEGORIES

- **EPA (Environmental Protection Agency):** None of the ingredients are listed.
- **TLV (Threshold Limit Value established by ACGIH):**
1314-23-4 Zirconium oxide A4
1344-28-1 Aluminium Oxide A4
- **NIOSH-Ca (National Institute for Occupational Safety and Health):** None of the ingredients are listed.

15. REGULATORY INFORMATION (CONT.)

GHS LABEL ELEMENTS

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard-determining components of labeling:**
Silica-Amorphous Silica fume
Aluminium Oxide
- **Hazard statements:**
H335 May cause respiratory irritation.
- **Precautionary statements:**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a poison center/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national international regulations.

NATIONAL REGULATIONS

None of the ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

DATE OF LAST REVISION / REVISION NUMBER: 08/20/2019 / -

ABBREVIATIONS AND ACRONYMS

- ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety and Health
- OSHA: Occupational Safety & Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.