



ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 01/15/2017

Supersedes: 08/25/2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Alpha Star
Other means of identification : Alpha Star

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Refractory products, Highway Aggregate

1.3. Details of the supplier of the safety data sheet

FX Minerals Processing
257 Kennedy Park Marina Road
Newell, WV 26050
(304) 387-1160

1.4. Emergency telephone number

Emergency number : (304) 387-1160
After 5PM weekdays, weekends and holidays: (412) 956-7578

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Not Classified

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

NOT APPLICABLE

Signal word (GHS-US) : No Signal Word

Hazard statements (GHS-US) : Not Applicable

Precautionary statements (GHS-US) :

NOT APPLICABLE

2.3. Other hazards

Other hazards not contributing to the classification : Other constituents in this product are considered nuisance particles or dust. Exposure to dusts or powders may cause mechanical irritation of the respiratory system, eyes, and skin.

2.4. Unknown acute toxicity (GHS-US)

99.3 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|------------------|---------------------|------|-----------------------|
| Aluminum Oxide | (CAS No) 1344-28-1 | >90% | STOT Rep. Exp.1 |
| Titanium Dioxide | (CAS No) 13463-67-7 | <4.0 | Not classified |

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- First-aid measures after inhalation : If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.
- First-aid measures after skin contact : Use good hygiene practices including washing of skin with soap and water. If irritation occurs, seek medical attention.
- First-aid measures after eye contact : In case of eye contact, flush eyes with water. If necessary, seek medical attention.
- First-aid measures after ingestion : Not an anticipated route of exposure. If a large amount is swallowed, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : There are potential chronic health effects to consider.
- Symptoms/injuries after inhalation : May cause respiratory irritation
- Symptoms/injuries after skin contact : No known significant effects or critical hazards
- Symptoms/injuries after eye contact : May cause eye irritation
- Symptoms/injuries after ingestion : No known significant effects or critical hazards

4.3 Over – Exposure Signs/Symptoms

- Signs/Symptoms eye contact : May cause eye irritation. No chronic effect known
- Signs/Symptoms inhalation : Long term exposure to high airborne concentrations may result in inflammation of the small airways and asthma-like symptoms
- Signs/Symptoms skin contact : No known significant effects or critical hazards
- Signs/Symptoms ingestion : No known significant effects or critical hazards

4.4. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Seek medical care if large quantities have been ingested or inhaled.

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Any. Use media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No specific fire or exposed hazard

Reactivity : Not reactive under normal use and conditions.

5.3. Advice for firefighters

Protection during firefighting : Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Products are naturally occurring earthen materials. No special precautions are known.

6.1.1. For non-emergency personnel

Emergency procedures : Products are naturally occurring earthen materials. No special precautions are known

6.1.2. For emergency responders

Protective equipment : Products are naturally occurring earthen materials. No special precautions are known

Emergency procedures : Products are naturally occurring earthen materials. No special precautions are known

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Do not touch or walk through spilled material.

Methods for cleaning up : Completely remove dusts to prevent recirculation of nuisance dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent dust recirculation. For large spills, use a fine spray or mist to control dust creation and carefully scoop or shovel into clean, dry container for later reuse or disposal. DO NOT USE DRY SWEEPING OR COMPRESSED AIR TO CLEAN SPILLS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment in accordance with those recommendations provided in Section 8. Use good hygiene practices and wash hands and face before eating, drinking or conducting personal hygiene. Reduce contamination from clothing and protective equipment before entering eating areas.

Hygiene measures : Practice good housekeeping. Wash thoroughly after handling. Change contaminated clothing. Do not reuse until laundered.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Containers should be stored in room at ambient temperature and pressure. Keep container closed when not in use.

7.3. Specific end use(s)

Use of the substance/mixture : Refractory products, Highway aggregate

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Calcined Bauxite (1318-16-7) | | |
|-------------------------------|-------------------------------------|--|
| ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (Total dust); 5 mg/m ³ (Respirable Fraction) |
| Aluminum Oxide (1344-28-1) | | |
| ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ |
| OSHA | OSHA PEL (TWA) (mg/m ³) | >= 15 mg/m ³ /Total |
| OSHA | OSHA PEL (TWA) (mg/m ³) | >= 5 mg/m ³ /Resp. |
| Titanium Dioxide (13463-67-7) | | |

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | | |
|-------|-------------------------------------|----------------------|
| ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ |

8.2. Exposure controls

Ingredient comments: Occupational exposure to respirable dust should be monitored and controlled. The product should be handled using methods and techniques that minimize or eliminate dust generation. The product contains less than 1% w/w RCS (respirable crystalline silica) as determined by XRD Methods (NIOSH 7500).

| | |
|-------------------------------|---|
| Hand protection | : None required. Polymeric gloves are recommended to prevent irritation. Nitrile construction materials appear to offer the best protection against the ingredients of the product. |
| Eye protection | : Chemical goggles or safety glasses. |
| Skin and body protection | : Under dusty conditions or when excessive skin contact is likely, wear coveralls or other suitable work clothing. |
| Respiratory protection | : Wear NIOSH/MSHA approved respirator equipped with particulate cartridges when dusty in poorly ventilated areas, and if exposure limits are exceeded. A respiratory program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. |
| Personal protective equipment | : Avoid all unnecessary exposure. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | : Solid |
| Appearance | : Powder. |
| Color | : Grayish in Color |
| Odor | : No data available |
| Odor threshold | : No data available |
| pH | : 6.5 - 8 |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : 1648 °C (3000 °F) |
| Freezing point | : Not applicable |
| Boiling point | : Not applicable |
| Flash point | : Not applicable |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : 0.9 - 2 (water = 1) |
| Solubility | : Insoluble Water: Solubility in water of component(s) of the mixture: |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosive limits | : Not applicable |

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 10: Stability and reactivity

10.1. Reactivity

Not reactive under normal use and conditions.

10.2. Chemical stability

Stable at normal temperatures and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Avoid generating dust.

10.5. Incompatible materials

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

Combustion may produce carbon monoxide and other harmful substances

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Acute toxicity (Oral LD50) Not relevant

Acute Toxicity (Dermal LD50) Not relevant

Acute Toxicity (Inhalation) Not Relevant

This substance has no evidence of carcinogenic properties

Inhalation: May cause irritation in respiratory system from highly concentrated dust

Ingestion: May cause discomfort if swallowed

Skin Contact: May cause discomfort on skin

Eye Contact: Particles in eyes may cause irritation

SECTION 12: Ecological information

12.1. Toxicity

Not expected to be toxic to aquatic organisms.

12.2. Persistence and degradability

No additional information available

12.3. Bio accumulative potential

| | |
|----------------------------|---|
| Bio accumulative potential | This product is not expected to bio accumulate. |
|----------------------------|---|

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming

: No known ecological damage caused by this product.

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of as inert solid in landfill. Dispose of waste material according to Local, State and Federal environmental regulations. Never discharge directly into sewers or surface waters. Slurry may plug drains.

SECTION 14: Transport information

In accordance with
DOT not regulated
for transport

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

| Chinese Bauxite |
|---|
| Not listed on the United States TSCA (Toxic Substances Control Act) inventory |

| Calcined Bauxite (1318-16-7) |
|---|
| Not listed on the United States TSCA (Toxic Substances Control Act) inventory |

| Titanium Dioxide (13463-67-7) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

15.2. International regulations

CANADA

No additional information available

EU-Regulations

(EC) No. 453/2010

Classification according to Regulation (EC) No. 1272/2008 [CLP]

H372 - Causes damage to lungs through prolonged or repeated exposure via inhalation

15.2.2. National regulations

No additional information available

ALPHA STAR

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.3. US State regulations

Titanium Dioxide (13463-67-7)

U.S. - New Jersey - Right to Know Hazardous Substance List
Aluminum Oxide (CAS 1344-28-1)
Titanium Dioxide (CAS 13463-67-7)

U.S. - Massachusetts - Right to Know List
Aluminum Oxide (CAS 1344-28-1)
Titanium Dioxide (CAS 13463-67-7)

U.S. - Pennsylvania - Right to Know List
Aluminum Oxide (CAS 1344-28-1)
Titanium Dioxide (CAS 13463-67-7)

SECTION 16: Other information

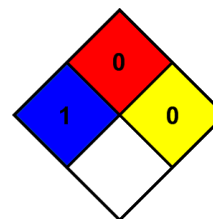
Revision date 08/25/2015

Data sources : ChemADVISOR, Inc.[<https://www.chemadvisor.com>]. GESTIS DNEL Database [[http://dnel-en.itrust.de/nxt/gateway.dll/dnel_en/000000.xml?f=templates\\$fn=default.htm\\$vid=dneleng:ddb eng\\$3.0/](http://dnel-en.itrust.de/nxt/gateway.dll/dnel_en/000000.xml?f=templates$fn=default.htm$vid=dneleng:ddb eng$3.0/)].

Full text of H-phrases:

| | |
|-----------|--|
| STOT RE 1 | Specific target organ toxicity — Repeated exposure, Category 1 |
| H372 | Causes damage to organs through prolonged or repeated exposure |

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard : 0 - Materials that will not burn.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 0 Minimal Hazard
Physical : 0 Minimal Hazard
Personal Protection : E

SDS US (GHS HazCom 2012)

CALIFORNIA Prop 65 Components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm

Although reasonable care has been taken in the preparation of the information contained herein, FX Minerals extends no warranties, makes no representation and assumes no responsibility as to the accuracy of suitability of such information for application to purchaser's intended purposes or for consequences of its use.