



# STARFLOW AL

## Safety Data Sheet

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

Date of issue: 04/23/2015

Version: 1.0

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : STARFLOW AL  
Product code : 765C

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

Use of the substance/mixture : Refractory

#### 1.3. Details of the supplier of the safety data sheet

Specialty Minerals Inc.,  
35 Highland Avenue,  
Bethlehem, PA 18017. USA  
Tel: +1-610-997-8394

#### 1.4. Emergency telephone number

Emergency number : +1 760 476 3961  
3E Global Emergency Response Services. Access code: 333336 (if you mention MSDS name and company name-you don't need the access code)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Skin Corr. 1B H314  
STOT SE 3 H335

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

GHS07

Signal word (GHS-US) : Danger  
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage  
H335 - May cause respiratory irritation  
Precautionary statements (GHS-US) : P261 - Avoid breathing dust  
P264 - Wash hands thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P363 - Wash contaminated clothing before reuse  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

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Full text of H-phrases: see section 16

### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Aluminum oxide	(CAS No) 1344-28-1	50 - 80	Not classified
Disodiumtrioxosilicate, nonahydrate	(CAS No) 13517-24-3	10 - 20	Skin Corr. 1B, H314 STOT SE 3, H335
disodium metasilicate	(CAS No) 6834-92-0	3 - 10	Skin Corr. 1B, H314 STOT SE 3, H335

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms develop, obtain medical attention.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

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

- Symptoms/injuries after inhalation : Irritating to respiratory system.
- Symptoms/injuries after skin contact : Causes burns.
- Symptoms/injuries after eye contact : Corrosive to eyes.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : None known.
- Reactivity : Stable under normal conditions.

### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Evacuate unnecessary personnel. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin and eyes. Do not breathe dust.

#### 6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing and eye or face protection. Where excessive dust may result, wear approved mask.
- Emergency procedures : Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin and eyes. Do not breathe dust. Wear independent breathing equipment.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect using vacuum cleaner fitted with HEPA filter. Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust. Do not dry sweep dust. Store away from other materials.

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Provide appropriate exhaust ventilation at places where dust is formed. Avoid dust formation. Avoid contact with eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe dust.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.

### 7.3. Specific end use(s)

Refractory.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Aluminum oxide (1344-28-1)

USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> Aluminium metal (as Al) Respirable fraction
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### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate ventilation, including appropriate local extraction, to ensure that occupational exposure limits are not exceeded. Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear chemically resistant protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Use chemically protective clothing.

Respiratory protection : Dust mask or respirator.

Thermal hazard protection : Not required for normal conditions of use.

Environmental exposure controls : Avoid release to the environment.

Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Powder.

Color : No data available

Odor : odorless.

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

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 : No data available

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Solubility	: Partially soluble.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: Not oxidizing.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Dust formation.

### 10.5. Incompatible materials

None.

### 10.6. Hazardous decomposition products

Aluminum oxides. Silicon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Aluminum oxide (1344-28-1)	
LD50 oral rat	5000 mg/kg
disodium metasilicate (6834-92-0)	
LD50 oral rat	600 mg/kg
Disodiumtrioxosilicate, nonahydrate (13517-24-3)	
LD50 oral rat	600 - 1350 mg/kg

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: Irritating to respiratory system.
Symptoms/injuries after skin contact	: Causes burns.
Symptoms/injuries after eye contact	: Corrosive to eyes.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Not classified.

##### disodium metasilicate (6834-92-0)

LC50 fish	210 mg/l 96 h (Brachydanio rerio)
EC50 Daphnia	216 mg/l 96 h (Daphnia magna)

##### Disodiumtrioxosilicate, nonahydrate (13517-24-3)

LC50 fish	3185 mg/l 96 h - Fish
EC50 Daphnia	> 4857 mg/l 48 h - Daphnia magna

#### 12.2. Persistence and degradability

##### STARFLOW AL

Persistence and degradability : Not relevant for inorganic substances.

#### 12.3. Bioaccumulative potential

##### STARFLOW AL

Bioaccumulative potential : Not relevant for inorganic substances.

#### 12.4. Mobility in soil

##### STARFLOW AL

Ecology - soil : No information available.

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1759 Corrosive solids, n.o.s. disodium metasilicate(6834-92-0) ; Disodiumtrioxosilicate, nonahydrate(13517-24-3), 8, III  
UN-No.(DOT) : 1759  
DOT NA no. : UN1759  
Proper Shipping Name (DOT) : Corrosive solids, n.o.s.  
disodium metasilicate(6834-92-0) ; Disodiumtrioxosilicate, nonahydrate(13517-24-3)  
Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136  
Hazard labels (DOT) : 8 - Corrosive



DOT Symbols : G - Identifies PSN requiring a technical name  
Packing group (DOT) : III - Minor Danger  
DOT Packaging Exceptions (49 CFR 173.xxx) : 154  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 213  
DOT Packaging Bulk (49 CFR 173.xxx) : 240  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

#### Additional information

Other information : No supplementary information available.

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### Transport by sea

UN-No. (IMDG) : 1759  
Proper Shipping Name (IMDG) : CORROSIVE SOLID, N.O.S.  
Class (IMDG) : 8 - Corrosive substances  
Packing group (IMDG) : III - substances presenting low danger

### Air transport

UN-No.(IATA) : 1759  
Proper Shipping Name (IATA) : CORROSIVE SOLID, N.O.S.  
Class (IATA) : 8 - Corrosives  
Packing group (IATA) : III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

STARFLOW AL	
SARA Section 302 Threshold Planning Quantity (TPQ)	No components listed
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	No components listed

#### Aluminum oxide (1344-28-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on United States SARA Section 313

#### disodium metasilicate (6834-92-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Disodiumtrioxosilicate, nonahydrate (13517-24-3)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

STARFLOW AL	
WHMIS Classification	Class E - Corrosive Material

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

#### Aluminum oxide (1344-28-1)

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Massachusetts - Right To Know List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Data sources : US OSHA HazCom (GHS) 25 May 2012.

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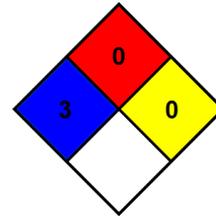
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- Abbreviations and acronyms : ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route). ATE (Acute Toxicity Estimate). BCF (Bioconcentration factor). CAS (Chemical Abstracts Service) number. CLP (Classification, Labeling and Packaging). DNEL (Derived No effect Limit). EC (European Community). EC50 (Effective Concentration 50%). EN (European Norm). vPvB (very persistent and very bioaccumulative). UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods). TWA (Time Weighted Average). STEL (Short Term Exposure Limit). RID (Règlement concernant le transport international ferroviaire de marchandises). REACH (Registration, Evaluation and Authorisation of CHemicals). PNEC (predicted no effect concentration). PMcc (Pensky-Martens Closed Cup test). IARC (International Agency for Research on Cancer). IATA (International Air Transport Association). IBC (Intermediate Bulk Container). IMO (International Maritime Organisation). IMDG (International Maritime Dangerous Goods Code). LC50 (Lethal Concentration 50%). LD50 (Lethal Dose 50%). MAC (Maximal Allowed Concentration). O/W (Oil-in-Water (chemistry)). OECD (Organisation for Economic Co-operation and Development). PBT (Persistent, bioaccumulative and toxic).
- Other information : None.

Full text of H-phrases: see section 16:

Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation

- NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was 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 : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability : 0 Minimal Hazard
- Physical : 0 Minimal Hazard
- Personal Protection : F

NCEC SDS US GHS (Hazcom 2012)

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