



SAFETY DATA SHEET

Creation Date 12-Oct-2010

Revision Date 12-Aug-2013

Revision Number 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: Ammonium hexafluorosilicate
Cat No. : 194000000; 194000100; 194000500; 194002500
CAS-No 16919-19-0
EC-No. 240-968-3
Molecular Formula H8 F6 N2 Si

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium
E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|---|------------|
| Acute oral toxicity | Category 3 |
| Acute dermal toxicity | Category 3 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 3 |

Environmental hazards

Based on available data, the classification criteria are not met

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s) T - Toxic

R-phrases(s) R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H311 - Toxic in contact with skin
 H331 - Toxic if inhaled
 H301 - Toxic if swallowed

Precautionary Statements

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
 P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
 P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water

2.3. Other hazards

No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 | DSD Classification - 67/548/EEC |
|-------------------------|------------|-------------------|----------|---|---------------------------------|
| Ammonium silicofluoride | 16919-19-0 | EEC No. 240-968-3 | >95 | Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) | T; R23/24/25 |

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion

Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Protection of First-aiders

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

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

No information available

4.3. Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Combustion ProductsNitrogen oxides (NO_x), Hydrogen fluoride, Silicon dioxide.**5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Do not breathe vapors/dust. Do not ingest.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s):

UK - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

| Component | European Union | The United Kingdom | France | Belgium | Spain |
|-------------------------|----------------|---|--|---------|---|
| Ammonium silicofluoride | | STEL: 7.5 mg/m ³ 15 min TWA: 2.5 mg/m ³ 8 hr | TWA / VME: 2.5 mg/m ³ (8 heures). indicative limit | | TWA / VLA-ED: 2.5 mg/m ³ (8 horas) |

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|-------------------------|-------|---|------------------------------------|-----------------|---------|
| Ammonium silicofluoride | | TWA: 1 mg/m ³ (8 Stunden). AGW - exposure factor 4 | TWA: 2.5 mg/m ³ 8 horas | | |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|-------------------------|---------|---------|-------------|--------|------------------------------------|
| Ammonium silicofluoride | | | | | TWA: 0.6 mg/m ³ 8 timer |

| Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey |
|-------------------------|----------------------------|-----------------|----------|--------|--------|
| Ammonium silicofluoride | MAC: 0.2 mg/m ³ | | | | |

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available.

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|-------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral | | | | |
| Dermal | | | | |
| Inhalation | | | | |

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection

Safety glasses with side-shields (European standard - EN 166)

SAFETY DATA SHEET

Revision Date 12-Aug-2013

Ammonium hexafluorosilicate

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-----------------------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers recommendations | - | EN 374 | (minimum requirement) |
| Nitrile rubber | | | | |
| Neoprene | | | | |
| PVC | | | | |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..

Recommended Filter type: Particulates filter conforming to EN 143.

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001

When RPE is used a face piece Fit Test should be conducted.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

Prevent product from entering drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

Physical State

Solid.

Odor

No information available

Odor Threshold

No data available

pH

No data available

Melting Point/Range

No data available

Softening Point

No data available

Boiling Point/Range

No data available

Flash Point

No data available

Method - No information available.

Evaporation Rate

Not applicable

Solid

Flammability (solid,gas)

No information available.

Explosion Limits

No data available.

SAFETY DATA SHEET

Revision Date 12-Aug-2013

Ammonium hexafluorosilicate

| | | |
|---|---------------------------|-------|
| Vapor Pressure | No data available | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | No data available | |
| Bulk Density | No data available | |
| Water Solubility | Soluble in water | |
| Solubility in other solvents | No information available. | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | Not applicable | |
| Decomposition temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available. | |
| Oxidizing Properties | No information available. | |

9.2. Other information

| | |
|-------------------|-------------|
| Molecular Formula | H8 F6 N2 Si |
| Molecular Weight | 178.14 |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity None known, based on information available.

10.2. Chemical stability Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid Incompatible products, Excess heat, Avoid dust formation.

10.5. Incompatible materials Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products Nitrogen oxides (NOx), Hydrogen fluoride, Silicon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

- (a) acute toxicity;
- | | |
|------------|------------|
| Oral | Category 3 |
| Dermal | Category 3 |
| Inhalation | Category 3 |
- (b) skin corrosion/irritation; No data available
- (c) serious eye damage/irritation; No data available
- (d) respiratory or skin sensitization;
- | | |
|-------------|-------------------|
| Respiratory | No data available |
|-------------|-------------------|

Ammonium hexafluorosilicate

| | |
|---|---|
| Skin | No data available |
| (e) germ cell mutagenicity; | No data available |
| (f) carcinogenicity; | No data available |
| | There are no known carcinogenic chemicals in this product |
| (g) reproductive toxicity; | No data available |
| (h) STOT-single exposure; | No data available |
| (i) STOT-repeated exposure; | No data available |
| Target Organs | None known. |
| (j) aspiration hazard; | Not applicable Solid |
| Symptoms / effects, both acute and delayed | No information available. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

Do not empty into drains. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-------------------------|---------------------|------------|------------------|----------|
| Ammonium silicofluoride | 25.8 mg/L LC50 96 h | | | |

12.2. Persistence and degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Degradability

Not relevant for inorganic substances.

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

12.5. Results of PBT and vPvB assessment

No data available for assessment

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point..

| | |
|---------------------------------------|---|
| European Waste Catalogue (EWC) | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. |
| Other Information | Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. |

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

| | |
|---|-------------------------|
| 14.1. UN number | UN2854 |
| 14.2. UN proper shipping name | Ammonium fluorosilicate |
| 14.3. Transport hazard class(es) | 6.1 |
| 14.4. Packing group | III |

ADR

| | |
|---|-------------------------|
| 14.1. UN number | UN2854 |
| 14.2. UN proper shipping name | Ammonium fluorosilicate |
| 14.3. Transport hazard class(es) | 6.1 |
| 14.4. Packing group | III |

IATA

| | |
|--|---------------------------------|
| 14.1. UN number | UN2854 |
| 14.2. UN proper shipping name | Ammonium fluorosilicate |
| 14.3. Transport hazard class(es) | 6.1 |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No hazards identified |
| 14.6. Special precautions for user | No special precautions required |
| 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable, packaged goods |

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | CHINA | AICS | KECL |
|-------------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Ammonium silicofluoride | 240-968-3 | - | | X | X | - | X | X | X | X | X |

National Regulations

| Component | Germany - Water Classification (VwVws) | Germany - TA-Luft Class |
|-------------------------|--|-------------------------|
| Ammonium silicofluoride | WGK 2 | |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

Full text of H-Statements referred to under sections 2 and 3

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H331 - Toxic if inhaled

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Industrial Hygiene

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Key literature references and sources for data

Suppliers safety data sheet,

Chemadvisor - LOLI,

Merck index,

RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Creation Date 12-Oct-2010

Revision Date 12-Aug-2013

Revision Summary

Reason for revision Update to Format, (M)SDS sections updated, 4, 8, 11, 12, 15, 16.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet