



Safety Data Sheet

According to 29 CFR 1910.1200 (OSHA HCS)

SDS No. 17

Review date: January 17, 2019

1 Identification of substance and company

Product details

Product name: Aluminum chloride, anhydrous
Product code: 11450, 90245, 90742
Relevant identified uses of the substance: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: (210) 691-2000
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion - 1B
Serious eye damage - 1
Specific target organ toxicity - repeated exposure, inhalation - 1, lungs
Specific target organ toxicity - repeated exposure, oral - 2, central nervous system
Acute aquatic toxicity - 3

Pictogram:



Signal Word:

Danger

Hazard statements:

H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H372 Causes damage to organs (lungs) through prolonged or repeated exposure if inhaled
H373 May cause damage to organs (central nervous system) through prolonged or repeated exposure if swallowed
H402 Harmful to aquatic life

Precautionary statements:

P260 Do not breathe dust or mist
P264 Wash thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment
P280 Wear protective gloves / protective clothing / eye protection / face protection
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+340+310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/ doctor
P314 Get medical advice/ attention if you feel unwell
P363 Wash contaminated clothing before reuse
P405 Store locked up
P501 Dispose of contents / container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) or not covered by GHS:

Reacts violently with water

HMIS ratings (scale 0-4):

Health 3
Flammability 0
Physical hazard 0

3 Composition/Information on ingredients

Chemical name:	Aluminum chloride, anhydrous
Designation: (CAS#):	7446-70-0
Formula:	AlCl ₃
Synonyms:	Aluminum trichloride, pearsall, trichloroaluminum
Identification number(s):	
EC Number:	231-208-1

4 First aid measures

After inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical advice
After skin contact:	Instantly wash with water and soap and rinse thoroughly Seek immediate medical advice
After eye contact:	Rinse opened eye for at least 15 minutes under running water. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical advice
After swallowing:	Seek immediate medical treatment
Information for doctor:	
The following symptoms may occur:	Irritation of the respiratory tract with burning, choking and coughing. In severe cases, lung edema, laryngeal spasm, and death may occur. Eye irritation, severe burns, prolonged impairment, including blindness will occur depending on the degree of exposure. Stricture of the esophagus may result, if not immediately fatal.

5 Fire-fighting measures

Suitable extinguishing agents:	Dry powder, carbon dioxide, dry sand Use an extinguishing media other than water which is suitable for a surrounding fire. Do not use water to extinguish surrounding fire as a violent exothermic reaction producing corrosive hydrogen chloride gas can result
Special hazards caused by the material, its products of combustion or resulting gases:	In case of fire, the following can be released: Aluminum oxide Hydrogen chloride fumes
Protective equipment:	Wear self-contained breathing apparatus Wear fully protective fire fighting equipment/clothing in fire situations

6 Accidental release measures

Person-related safety precautions:	Wear personal protective equipment. Keep unprotected persons away. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid formation of dust.
Measures for environmental protection:	Do not allow material to be released to the environment without proper governmental permits
Measures for cleaning/collecting:	Dispose of contaminated material as waste according to item 13 Ventilate and wash spill site after material removal is complete
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal

7 Handling and storage

Information for safe handling:	Store and handle under dry protective gas Keep containers tightly sealed, vent periodically Store in cool, dry place in tightly closed containers Ensure good ventilation/exhaust at the workplace
Information about protection against explosions and fires:	This material is not flammable
Information about storage in one common storage facility:	Store away from air / water / moisture Do not store together with acids
Further information about storage conditions:	Store under dry, inert gas Keep container tightly sealed Store in cool, dry conditions in well sealed containers

8 Exposure controls/personal protection

Additional information about design of technical systems:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
Components with critical values that require monitoring at the workplace:	Aluminum chloride, anhydrous mg/m ³ NIOSH REL: TWA 2 California PEL: TWA 2
Additional information:	No data

Personal protective equipment

General protective and hygienic measures:	The usual precautionary measures should be adhered to in handling the chemicals Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Respiratory protection:	Use suitable respirator when high concentrations are present Use only NIOSH/MESA or CEN approved dust mask type N100 or TYPE P3 (EN 143)
Hand protection:	Impervious gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product
Eye protection:	Safety glasses Chemical safety goggles Where exposure to fumes or particulate may occur full face respiratory protection is recommended to prevent corrosive fumes or particles from entering the eyes
Skin protection:	Protective work clothing, utilize poly-coated Tyvek coveralls, with rubber boots and gloves
Additional protective equipment:	Sufficient to prevent any contact Emergency eyewash and safety shower

9 Physical and chemical properties

General Information:	
Physical state:	Powder
Color:	White to light yellow or gray
Odor:	Strong odor of hydrogen chloride
Molecular Weight (Calculated):	133.34
pH (5% solution)	2.4 @ 100 g/L @ 20 °C
Melting point/range:	190 °C
Boiling point/range:	187.7 °C
Sublimation temperature/start:	181 °C @ 1 atm.
Flash point:	Non-flammable
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Danger of explosion:	Product does not present an explosion hazard
Flammable limits:	Non-flammable
Lower:	No data available
Upper:	No data available
Vapor pressure (mm Hg):	1 mmHg @ 100 °C
Specific gravity:	2.44 g/cm ³
Solubility in/Miscibility with water:	Decomposes in contact with water, reacts violently

10 Stability and reactivity

Conditions to be avoided:	No decomposition if used and stored according to specifications See section 7 for information on proper handling and storage
Materials to be avoided:	Water: reacts violently Alkali: may react explosively Alkenes: violent, highly exothermic polymerization possible Allyl chloride: violent polymerization possible Ethylene oxide: violent polymerization possible Metals: may corrode in the presence of moisture Organic nitro compounds: vigorous reaction Oxygen difluoride: explodes Potassium: forms impact sensitive mixture Sodium: forms impact sensitive mixture
Dangerous reactions:	See above
Hazardous decomposition products:	Aluminum oxide, hydrogen chloride gas

11 Toxicological information

Acute toxicity:	
LD/LC50 values that are relevant for classification:	oral-rat LD ₅₀ 3450 mg/kg dermal-rabbit LD ₅₀ > 2 g/kg
Primary irritant effect:	
on the skin:	No data available
on the eye:	Severe eye irritation
Sensitization:	No sensitizing effect known
Additional toxicological information:	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, sneezing, laryngitis, shortness of breath, headache, nausea, vomiting, prolonged or repeated exposure can cause damage to the lungs

Carcinogenicity: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

12 Ecological information

Toxicity
Aquatic toxicity (fish): Rainbow trout: LC₅₀: 36.6 mg/L:96H
Aquatic toxicity (daphnia): Daphnia magna: EC₅₀: 27.3 mg/L:48H
Aquatic toxicity (algae): Green algae: EC₅₀: 0.57 mg/L:96H
Persistence and degradability: No further relevant information available
Behavior in environmental systems:
Bioaccumulative potential: No further relevant information available
Mobility in soil: No further relevant information available
Additional ecological information:
General notes: Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system
Do not allow material to be released to the environment without proper governmental permits
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal
Harmful to aquatic life

13 Disposal considerations

Recommendation: Consult state, local or national regulation for proper disposal
Allow professional disposal company to handle waste
Must be specially treated under adherence to official regulations
Unclean packaging Recommendation: Disposal must be made according to official regulations

14 Transport information

Land transport DOT



DOT Hazard Class: 8
Identification number: UN1726
Label: Corrosive
Packing group: II
Proper shipping name: Aluminum chloride, anhydrous
North American Emergency Response Guidebook No.: 137
Reportable quantity:

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class 8
UN/ID Number: UN1726
Label: Corrosive
Packaging group: II
Correct technical name: Aluminum chloride, anhydrous
North American Emergency Response Guidebook No.: 137
Reportable quantity:

UPS - Air



ICAO/IATA Class 8
UN/ID Number: UN1726
Label: Corrosive
Packaging group: II

Correct technical name: Aluminum chloride, anhydrous
North American Emergency Response Guidebook No.: 137
Reportable quantity:

UPS - Ground/FedEx Ground



49 CFR Class: 8
UN/ID Number: UN1726
Label: Corrosive
Packaging group: II
Correct technical name: Aluminum chloride, anhydrous
North American Emergency Response Guidebook No.: 137
Reportable quantity:

15 Regulatory information

SARA 302 Components: Not applicable
SARA 311/312 Components: Acute Health Hazard, Chronic Health Hazard, Reactive Hazard
SARA 313 Components: Not applicable
California Prop. 65 Components: Not applicable
National regulations: All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory
Information about limitation of use: Employment restrictions concerning young persons must be observed
For use only by technically qualified individuals

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.