

Aluminum Chloride, 20% in SDA Solutions

Revision Date 01-15-2015

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Aluminum Chloride 20% in SDA
Product code: 3400523, 400763

Supplier: Astral Diagnostics Inc.
1224 Forest Parkway, Suite 200
West Deptford, NJ 08066
800-441-0366 Technical Service
Monday-Friday: 8:00 -5:00 PM

Synonym: None.
Material uses: Laboratory Reagent.
Validation date: 12/11/2013
In case of emergency: 800-424-9300 CHEMTREC (USA)
24 Hours/Day: 7 Days/Week

2. HAZARDS IDENTIFICATION

GHS Classification

GHS Label Elements: Pictogram



Signal Word **Danger!**

OSHA Hazards

Flammable liquid, Target Organ Effect, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Irritant

Hazard statement(s)

Highly flammable liquid and vapor.
May be harmful if swallowed.
Causes eye irritation.
Causes damage to organs.

Precautionary statement(s):

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not breathe vapors
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If exposed: Call a POISON CENTER or doctor/ physician.

GHS Classification

Flammable liquids (Category 2)
Acute toxicity, Oral (Category 5)
Eye irritation (Category 2/2A)
Specific target organ toxicity - single exposure (Category 3)

Potential Acute Health Effects:

Flammable Liquid Hazardous in case of contact with eye, skin, ingestion and inhalation. Liquid or spray mist may produce tissue damage especially mucous membranes of eyes, mouth and respiratory tract. Will burn eyes and skin on contact.

Respiratory track characterized by coughing, choking and shortness of breath. Inflammation of eyes results in redness, watering and itching. Skin contact results in scaling, redness or blistering.

Potential Chronic Health Effects:

Carcinogenic Effects, NA; Mutagenic Effects, NA; Teratogenic Effects, NA; Developmental Toxicity, NA. May be toxic to kidneys, mucous membranes, blood, bones, skin and teeth.

Precautionary statement(s):

If in eyes or skin: Rinse with water for several minutes. Remove contact lenses, if present and rinse again.

Wear protective gloves/protective clothing/eye protection/face protection.

Target Organs

Respiratory Tract

NFPA Rating

Health hazard: 1

Fire: 3

Reactivity Hazard: 0

HMIS Classification

Health hazard: 1

Flammability: 3

Physical hazards: 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Name | CAS number | % by volume |
|-------------------------------|------------|-------------|
| Aluminum Chloride Hexahydrate | 7784-13-6 | ~ 20 |
| SDA-3C (ethanol/IPA) | 64-17-5 | ~ 97 |

4. FIRST AID MEASURES

- Eye contact:** Check for and remove any contact lenses. Immediately flush eyes with water for 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact:** Flush skin with water for 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation:** Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion:** Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

- Flammability of the product:** Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media:** Use dry chemical, CO2, water spray (fog) or foam.
- Not suitable:** Do not use water jet.
- Special exposure hazards:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products:** Decomposition products may include the following materials: carbon dioxide, carbon monoxide, halogenated compounds, metal oxide/oxides
- Special protective equipment for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or

flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

6.2 Environ precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Clean up: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

7. HANDLING AND STORAGE

7.1 Safe Handling: Do not get in eyes, on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use empty containers to retain product, residue can be hazardous. Do not reuse container.

7.2 Storage: Store in accordance with local regulations. Store in a segregated and approved area.. Store in original container, protected from direct sunlight. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits:

ACGIH TLV: TWA, No exposure limits listed

OSHA PEL: TWA: No exposure limits listed

NIOSH REL: TWA: 2 mg/m³

Engineering measures: Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne concentrations below any recommended threshold limits.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating and using the lavatory. Wash contaminated clothing before reusing.

Personal protection

Respiratory: If used in poorly ventilated areas, use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels.

Hands: Chemical-resistant neoprene gloves

Eyes: Safety eyewear; splash goggles, face shield

Skin: Lab coats for personal protective equipment and should be approved by a specialist before handling this product.

Environmental exposure

controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|---|------------------------------------|-------|
| Physical state: | Liquid. | Color: | Clear |
| Flash Point: | 54°C Open Cup | Odor: | NA |
| pH: | ~2.5 | Boiling/condensation point: | NA |
| Melting/freezing point: | NA | Relative density: | NA |
| Vapor pressure: | NA | Vapor density: | NA |
| Odor threshold: | NA | Evaporation rate: | NA |
| VOC: | 80% | | |
| Solubility: | Soluble in the following materials: water | | |

10. STABILITY AND REACTIVITY

| | |
|--|--|
| Chemical stability: | The product is stable under normal conditions. |
| Possibility of hazardous reactions: | Not available |
| Hazardous polymerization: | Under normal conditions of storage and use, hazardous polymerization will not occur. |
| Conditions to avoid: | Strong alkaline solutions |
| Materials to avoid: | Strong alkaline solutions/oxidizing materials, excessive heat, sparks and open flame |
| Hazardous decomposition products: | Not available |

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50-Rat 3,311 mg/kg

Inhalation: Not available

Dermal: Not available

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes: Rabbit, severe eye irritation – 5s

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation Liquid or spray mist may produce tissue damage especially mucous membranes of eyes, mouth and respiratory tract. Toxic to lungs.

Ingestion May cause burns/tissue destruction.

Skin Will irritate skin on contact.

Eyes Will burn eyes on contact.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity Data (United States) Ethanol

| <u>Species</u> | <u>Period</u> | <u>Result</u> |
|-----------------------------|---------------|---------------|
| Daphia Magna (EC50) | 48 hour/hours | >10000 mg/l |
| Oncorhynchus myKiss (EC50) | 48 hour/hours | 13200 mg/l |
| Lepomis Macrochirus (EC50) | 48 hour/hours | 16000 mg/l |
| Daphia Magna (LC50) | 96 hour/hours | >100 mg/l |
| Pimephales Promelas (LC 50) | 96 hour/hours | >100 mg/l |
| Lepomis Macrochirus (LC50) | 96 hour/hours | 15400 mg/l |

12.2 Environmental Precautions:

No known significant effects or critical hazardous. The products of degradation are less toxic than the product itself.

13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT (US)

UN No 1987, Proper Shipping Name, Alcohol (ethanol/aluminum chloride), Hazard Class, 3, Subsidiary Hazard Class 6.1, Packing Group II (Ship as Ltd Qty)

TDG

UN No 1987, Proper Shipping Name, Alcohol (ethanol/aluminum chloride), Hazard Class, 3, Subsidiary Hazard Class 6.1, Packing Group II

IATA

UN No 1987, Proper Shipping Name, Alcohol (ethanol/aluminum chloride), Hazard Class, 3, Subsidiary Hazard Class 6.1, Packing Group II

IMDG/IMP

UN No 1987, Proper Shipping Name, Alcohol (ethanol/aluminum chloride), Hazard Class, 3, Subsidiary Hazard Class 6.1, Packing Group II

15. REGULATORY INFORMATION

United States

HCS Classification: Flammable liquid, toxic material, Irritating material, Target organ effects

U.S. Federal regulations:

TSCA 8(a) IUR: Partial exemption

United States inventory (TSCA 8b):

Listed on inventory.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Methanol

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Methanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

**DEA List I & II Chemicals
(Precursor Chemicals):** Not listed

SARA 313

| | Product name | CAS number | Concentration |
|---|---------------------|-------------------|----------------------|
| Form R - Reporting Requirements: | Ethanol | 64-17-5 | 96% |
| Supplier notification: | Ethanol | 64-17-5 | 96% |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

RTK: Ethanol/Aluminum Chloride Solutions, CAS 64-17-5/CAS 7784-13-6

Massachusetts, New Jersey, Pennsylvania

WHMIS (Canada): Class B-2: Flammable Liquid
Class D-1A: Material causing immediate and serious toxic effects (Very toxic).

Canadian lists:

Class D-2B: Material causing other toxic effects (Toxic).
CEPA Toxic substances: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Ethanol
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

CEPA DSL / CEPA NDSL:

All components are listed or exempted.

CERCLA:

Ethyl Alcohol: RQ 5000 lb

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

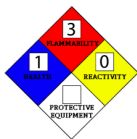
International regulations

International lists:

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.)



Notice to reader

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Astral Diagnostics and its Affiliates shall not be liable for any damage resulting from handling.