



GENCOAG™ S-11

Safety Data Sheet

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical Name: GENCOAG™ S-11/Polyaluminum Chloride Solution

Chemical Family: Inorganic aluminum salt

General use: Drinking water treatment, waste water treatment, papermaking and other manufacturing applications

Company Information:

GAC Chemical Corporation

34 Kidder Point Road

Searsport, Maine 04974 U.S.A.

Phone: 207-548-2525 FAX: 207-548-2891 Toll Free: 800-266-5155

Emergency Phone:

1-800-424-9300 Chemtrec (USA)

SECTION 2. HAZARDS IDENTIFICATION



Signal Word: WARNING

Hazard Statements: May be harmful if swallowed.
 Causes skin and eye irritation.
 May cause respiratory irritation.

Precautionary Statements: Do not get in eyes, on skin or on clothing.
 Wear gloves, eye and face protection and protective clothing.
 IF ON SKIN: Wash with plenty of soap and water.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If skin irritation occurs: get medical advice or attention.
 If eye irritation persists: get medical advice or attention.
 Take off contaminated clothing and wash before reuse.
 Collect spillage.
 Store in a closed container.
 Dispose of container in accordance with local, state, province and federal regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance GENCOAG™ S-11

Chemical name: Polyaluminum Chloride CAS#: 14215-15-7 (25.0 – 40.0%)
Water CAS#: 7732-18-5 (60.0 - 75.0%)

Synonyms: Polyaluminum Chloride Solution

Impurities: NA. No impurities or additives which are themselves classified and which contribute to the classification of the substance.

SECTION 4. FIRST AID MEASURES

Inhalation of mist or liquid:

Remove person from source of exposure to fresh air. If breathing is difficult, administer oxygen. If not breathing, start CPR. Get medical attention immediately.

Skin contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing.

If irritation or burning sensation develops get medical attention.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open.

Get medical attention if irritation persists.

Ingestion:

If fully conscious, drink as much water as can be tolerated. DO NOT induce vomiting. Get medical attention.

Most Important Symptoms/Effects:

Inhalation:

Mists may irritate nose, throat, lungs, mucous membranes, respiratory tract.

Skin contact:

May cause mild transient irritation.

Eye Contact:

May cause mild transient irritation.

Ingestion:

May cause irritation of the mouth and throat. May cause gastrointestinal irritation, nausea and vomiting.

SECTION 5. FIRE FIGHTING MEASURES

Flammability:

Product is not flammable and will not burn.

Suitable Extinguishing Media:

For fires in area use appropriate extinguishing media.

Specific Hazards Arising from the Chemical:

In a fire, dried polyaluminum chloride can decompose at elevated temperatures and may release hydrogen chloride vapors which are toxic.

Special Protective Equipment and Precautions for Firefighters:

Wear full protective fire fighting clothing including NIOSH approved self contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products.

SECTION 6. ACCIDENTAL RELEASE MEASURES**General:**

Site specific procedures to address accidental spills are necessary as dictated by facility design, location, staffing, containment structures, and regulatory requirements. Consult engineers if needed.

Personal Precautions, Protective Equipment and Emergency Procedures:

In the event of a spill, clear unnecessary personnel from spill area. If direct contact with spilled material is likely, use personal protective equipment recommended in Section 8. Maintain adequate ventilation.

Methods and Materials for Containment and Cleaning Up:

Shut off source of leak if safe to do so. Manage spill using containment structures or inert materials and collect for reuse. Product not reused can be neutralized and converted to aluminum hydroxide using a mild alkali such as soda ash, sodium bicarbonate or calcium carbonate (agricultural lime). Neutralized residue can be swept up or rinsed down with water and captured using absorbent materials for disposal in accordance with local, state, province, and federal regulations. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

SECTION 7. HANDLING AND STORAGE**Incompatible Chemicals:**

Avoid contact with chlorites, sulfites, strong bases, aqua ammonia and other similar materials.

Containment:

To minimize the possibility of a release into the environment and contact with other incompatible chemicals, storage tanks and containers should have a dedicated liquid tight secondary containment system. Consult engineers if needed.

General Hygiene:

Do not eat, drink, take medication or smoke when direct contact is possible.

Always thoroughly wash hands after leaving a work area where contact is possible or has occurred.

Storage:

Keep storage tanks and containers closed and contents protected from dust, dirt, and moisture.

Clean storage tanks on a regular schedule based on inspection and experience.

Have storage tanks, containers, and transfer systems properly labeled for contents.

Have procedures for determining product quantity in storage tanks and for accepting deliveries.

Use tanks, transfer lines, pumps valves and process instrumentation designed for this material using approved materials of construction. Some materials commonly used are FRP, PVC, CPVC, XLPE and Teflon®. Common metals such as steel, iron, copper, and aluminum will be damaged by corrosion.

Stainless steel is not recommended for long term storage. Consult engineers if necessary.

Temperature for Storage:

Preferred storage temperature range is 7°C-35°C (45°F-95°F).

Outside of these temperature ranges optimal product stability and shelf life may be affected.

Ventilation:

No special requirements.

Personal protection:

If direct contact with material is likely use personal protective equipment.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits

Ingredient: aluminum soluble salts

OSHA PEL	ACGIH TLV	NIOSH TLV	NIOSH
TWA 2mg/m ³ as Al	TWA 2mg/m ³ as Al	TWA 2mg/m ³ as Al	IDLH none est.
STEL none est.	STEL none est.	STEL none est.	

Respiratory - Ventilation:

Local passive ventilation is typically used. Under normal conditions respiratory protective equipment is not needed. If work requires direct exposure to product mist, use appropriate, NIOSH approved respiratory protection. Consult engineers if necessary.

Eye - Skin wash:

Have appropriate eye wash and safety shower stations available in the work area.

Eyes:

Use protective eye glasses with side shields/goggles and face shield protection to prevent direct contact.

Skin:

Wear long sleeve shirt, full length trousers, and gloves. No open-toed footwear. For spill cleanup, use impervious pants, jacket, gloves and boots.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid, clear to slight haze

Odor: No odor

Odor Threshold: NA

pH: 2.4-2.8 @ 25°C (77°F) as is basis

Melting/Freeze point: -10°C (14°F)

Boiling point-range: 105°C-115°C (221°F- 235°F) approx.

Flash point: NA

Evaporation rate: NA

Flammability: Not flammable.

Upper/lower flammability limits: NA

Vapor pressure: NA

Vapor density: NA

Relative Density (Specific Gravity): 1.25-1.28 S.G. @ 21°C (70°F)

Water Solubility: Complete.

Partial coefficient: n-octanol/water: NA

Auto ignition: NA

Decomposition temperature: >200°C (392°F)

Viscosity: 20-35 cps @ 25°C (77°F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

No data available

Chemical Stability:

Product is chemically stable under normal ambient temperature and conditions while stored or used.

Possibility of Hazardous Reactions:

Product will not polymerize.

Conditions to Avoid:

Avoid elevated temperatures. Keep away from incompatibles.

Incompatible Materials:

Chlorites, hypochlorite (bleach), sulfites, acids, strong bases, aqua ammonia, and common metals such as steel, iron, copper, and aluminum. Consult engineers if necessary.

Hazardous Decomposition Products:

At temperatures above 200°C (392°F) hydrogen chloride vapors are released. These vapors are toxic and corrosive.

SECTION 11. TOXICOLOGICAL INFORMATION
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Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Polyaluminum chloride (14215-15-7)**Oral (ingestion) estimate:**

LD50/Oral Rat >2,000mg/kg (as aluminum)

Inhalation estimate:

LC50/Inhalation rat >5.6mg/l (as aluminum)

Dermal estimate:

LD50/dermal: >550mg/kg (as aluminum)

HEALTH EFFECTS**Inhalation - Acute Exposure**

Inhalation of liquid or mist may cause irritation and coughing.

Inhalation - Chronic Exposure

Repeated or prolonged exposure may cause bronchial irritation, leading to nocturnal wheezing, and breathlessness. Prolonged inhalation of dusts containing high concentrations of aluminum have produced emphysema, non-nodular pulmonary fibrosis and fatalities.

Skin Contact - Acute Exposure

May cause mild transient irritation.

Skin Contact - Chronic Exposure

Repeated contact may cause irritation and drying.

Eye Contact - Acute Exposure

May cause mild transient irritation.

Eye Contact - Chronic Exposure

Repeated or prolonged contact with irritants may cause conjunctivitis or effects similar to those for acute exposure.

Ingestion - Acute Exposure

May cause irritation of the mouth and throat. May cause gastrointestinal irritation, nausea and vomiting.

Ingestion - Chronic Exposure

No data available.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic):

Polyaluminum chloride (14215-15-7)

Fish:

LC₅₀/96h/zebrafish/OECD test guideline 203: >1,000mg/l

LC₅₀: >243 mg/l as Al (aluminum)

Acute toxicity fathead minnow ASTM E729-96, EPA 821R0213, 48hr LC₅₀: >1,600 mg/l

Invertebrate:

EC₅₀/water flea semi-static/OECD test guideline 202: 98mg/l

EC₅₀: 24 mg/l as Al (aluminum)

Persistence and Degradability:

In water at pH range of 5.5-8.8 precipitates of aluminum hydroxide are formed.

Bioaccumulation Potential:

This product is not expected to bioaccumulate.

Mobility in Soil:

No information available.

Other Adverse Effects:

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA Hazardous Waste: Not listed. Waste product may be D002 under §261.22(a)(2) due to the rate of corrosion of steel .

Neutralization:

Product can be neutralized and converted to aluminum hydroxide using a mild alkali such as soda ash, sodium bicarbonate, or calcium carbonate (agricultural lime). Neutralized residue can be swept up or rinsed down with water and captured using absorbent materials for reuse or disposal in accordance with local, state, province, and federal regulations.

Contaminated Packaging:

Packaging and storage containers that cannot be thoroughly cleaned must be disposed of in accordance with local, state, province, and federal regulations.

SECTION 14. TRANSPORTATION INFORMATION

Land (DOT), Sea (IMDG), Air (ICAO/IATA)

Identification Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S., (Polyaluminum Chloride Solution)

Hazard Class: 8

Packing Group: III

Environmental Hazards: Marine pollutant: no; Hazardous substance: no

Special Precautions: None known

SECTION 15. REGULATORY INFORMATION

RCRA Hazardous Waste: Not Listed.

Unused, un-neutralized product may be a Characteristic Waste (D002). Consult engineers if necessary.

CERCLA Hazardous Substance: No

CERCLA Reportable Quantity (RQ): NA

SARA 311/312 Categories:

Acute (immediate) health effects: Yes
Chronic (delayed) health effects: No
Sudden release of pressure hazard: No
Reactivity hazard: No
Fire hazard: No

SARA 313 Toxic Chemical Listing: Not listed

SARA Extremely Hazardous Substance (EHS): Not listed

OSHA Air (29CFR 1910.10000, Table Z-1, Z-1A): Not listed

OSHA Special Regulated Substance (29CFR 1910): Not listed

California Prop 65 Chemical: No

United States TSCA Section Inventory Status: Product exempt or listed on the TSCA Inventory.

State Regulations: State specific regulations have not been determined by GAC Chemical Corporation.
Consult engineers if necessary.

SECTION 16. OTHER INFORMATION

HMIS Rating:

Health: 1
Flammability: 0
Reactivity: 0

NFPA Rating:

Health: 1
Fire: 0
Reactivity: 0
Special: NA

Preparatory Statement:

The information in this Safety Data Sheet (SDS) is correct to the best of our knowledge, information we have available, and belief as of the publication date. The information is designed solely as guidance for handling, storage, transportation, release, and disposal and is not to be considered 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 other materials or in any process unless specified in the text.

Data Sources for the SDS:

Literature, databases, practice, publications, own tests, regulations

Revision:

April 2015 replaces all earlier

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