



MUL = 250 mg/L

SAFETY DATA SHEET

Revision date 2020-Dec-18

Revision number 2

1. IDENTIFICATION

Product identifier

Product name Aluminum Chloride Solution (Technical grade)

Other means of identification

Product code 3204K
Synonyms Aluminum chloride, solution; Aluminum trichloride solution
AlCl₃*6H₂O Solution

Recommended use of the chemical and restrictions on use

Recommended use [RU] No information available
Uses advised against None known

Details of the supplier of the safety data sheet

Supplier G2O Technologies LLC
9213 Arch Street Pike
Little Rock, AR 72206
+1-800-453-2586
Hours: Monday-Friday 9:00-5:00 CST (Central Standard Time)

Contact Point sdsinfo@g2otech.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: (800) 424-9300
Outside USA - +1 (703) 527-3887 collect calls accepted

2. HAZARDS IDENTIFICATION

Classification

Canadian HPR Regulatory Status

This chemical is considered hazardous by the Hazardous Products Regulation (WHMIS 2015)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

EMERGENCY OVERVIEW

Physical state liquid	Color colorless to yellow	Appearance clear	Odor no appreciable odor
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GHS Label elements, including precautionary statements**DANGER****Hazard statements**

Harmful if swallowed. Causes severe skin burns and eye damage. May be corrosive to metals.

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original container.

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Absorb spillage to prevent material damage.

Precautionary Statements - Storage

Store locked up. Store in corrosive resistant container with a resistant inner liner.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

- Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS**Hazardous ingredients****Non-hazardous ingredients**

Component	Common name	CAS-No	weight-%
Water	Water	7732-18-5	> 70%

4. FIRST AID MEASURES**First Aid Measures****Eye contact**

Remove contact lenses, if worn. Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart to ensure flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek medical advice immediately.

Skin contact

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash

contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion

Do NOT induce vomiting. If vomiting should occur spontaneously, keep airway clear. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Most important symptoms and effects, both acute and delayed**Acute effects**

Possible eye, skin, and respiratory tract irritation or burns.

Chronic effects

May aggravate existing skin, eye, and lung conditions. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Note: Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE-FIGHTING MEASURES

Extinguishing media**Suitable extinguishing media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture**Special Hazard**

May produce hazardous fumes or hazardous decomposition products.

Advice for firefighters**Firefighting measures**

Product is a water solution and nonflammable. In a fire, this product may build up pressure and rupture a sealed container; cool exposed containers with water spray. Use self-contained breathing apparatus in confined areas; avoid breathing mist or spray.

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for firefighting personnel.

Explosion data**Sensitivity to Mechanical Impact**

None.

Sensitivity to Static Discharge

None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear suitable protective clothing and gloves.

Environmental precautions**Environmental precautions**

Do not permit solutions of product into sewers or waterways.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Shovel into labeled waste container for disposal. Provide adequate ventilation to spill area. Clean up residual material by washing area with water. Collect washings for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Keep container closed when not in use

Keep away from heat and open flame.

Avoid contact with eyes, skin and clothing

Wear chemical splash goggles, gloves, and protective clothing when handling.

Wash thoroughly after handling

Avoid breathing vapors or mists

Use with adequate ventilation and employ respiratory protection where mist or spray may be generated.

Do not take internally

FOR INDUSTRIAL USE ONLY.

Conditions for safe storage, including any incompatibilities**Technical measures and storage conditions**

Do not store in unlined metal containers.

Product may slowly corrode iron, brass, copper, aluminum, mild steel, and stainless steel.

Store in a cool, dry place away from heat.

Incompatible products

Alkalis.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines****Appropriate engineering controls****Engineering controls**

Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Individual protection measures, such as personal protective equipment

Eye/face Protection

Wear chemical splash goggles and face shield (when eye and face contact is possible due to splashing or spraying of material).

Hand Protection

Appropriate chemical resistant gloves should be worn

Skin and body protection

Standard work clothing and work shoes.

Respiratory protection

If exposures exceed the PEL or TLV, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Other personal protection data

Eyewash fountains and safety showers must be easily accessible.

Hygiene measures

Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	liquid
Color	colorless to yellow
Appearance	clear
Odor	no appreciable odor
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks / Method</u>
pH	< 1	as is
Melting / freezing point	-35 °C / -31 °F	No information available
Boiling point / boiling range	104 °C / 220 °F	No information available
Flash point	Not applicable	No information available
Evaporation rate	No information available	No information available
Flammability (solid, gas)	Not applicable	No information available
Flammability Limit in Air		
Upper flammability limit	Not applicable	No information available
Lower flammability limit	Not applicable	No information available
Vapor pressure	No information available	No information available
Vapor density	No information available	No information available
Specific gravity	1.27 - 1.29	No information available
Solubility (water)	Soluble	No information available
Solubility in other solvents	No information available	No information available
Partition coefficient: n-octanol/water	No information available	No information available
Autoignition temperature	Not applicable	No information available

Decomposition temperature	No information available	No information available
Kinematic viscosity	No information available	No information available
Dynamic viscosity	< 50 cps @ 20 °C	No information available

Other information

Density	10.59 - 10.76 lb/gal
Bulk Density	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	Not applicable
Volatile Organic Compound (VOC) content, wt.%	No information available
Percent Volatile, wt.%	48 - 52 %

10. STABILITY AND REACTIVITY**Reactivity****Reactivity**

No data available.

Chemical stability**Chemical stability**

Stable.

Possibility of hazardous reactions**Possibility of hazardous reactions**

None under normal processing.

Hazardous polymerization

No.

Conditions to avoid**Conditions to avoid**

None known.

Incompatible materials**Materials to avoid**

Alkalis.

Hazardous decomposition products**Hazardous decomposition products**Thermal decomposition may release toxic and/or hazardous gases such as Cl₂ and HCl.**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Eye contact**

Based on pH, this product is expected to cause severe eye irritation, possibly resulting in burns and eye damage. Prolonged exposure to Aluminum salts may cause conjunctivitis.

Skin contact

Prolonged and/or repeated contact will cause severe skin irritation and burns.

Ingestion

Harmful if swallowed. May cause burns of the mouth, throat and stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Inhalation

Inhalation of mist or spray may irritate respiratory tract and may cause burns and difficulty breathing.

Acute toxicity - Product Information

Oral LD50	3700 mg/kg (rat) ¹ 3805 mg/kg (mouse) ²
Dermal LD50	No information available
Inhalation LC50	No information available

Acute toxicity - Component Information

Component	weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum Chloride 7446-70-0	< 30%	= 380 mg/kg (Rat)	--	--

Information on toxicological effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Causes burns

Serious eye damage/eye irritation

Risk of serious damage to eyes

Sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

This product does not contain any components in concentrations greater than or equal to 0.1% that are listed as known or suspected carcinogens by NTP, IARC, ACGIH, or OSHA.

Reproductive toxicity

No information available

Specific target organ toxicity - Single exposure

No information available.

Specific target organ toxicity - Repeated exposure

No information available

Aspiration hazard

No information available.

Other information

Conclusions are drawn from sources other than direct testing.

¹ Environmental Quality and Safety, Supplemental. (Academic Press, 111 5th., Ave., New York, NY 10003) V.1- 1975-

² British Journal of Industrial Medicine. (British Medical Journal, 1172 Commonwealth Ave., Boston, MA 02134) V.1- 1944-

12. ECOLOGICAL INFORMATION

Ecotoxicity

- Harmful to aquatic life with long lasting effects

Acute aquatic toxicity - Product Information

Fish	No information available
Crustacea	No information available
Algae/aquatic plants	No information available

Acute aquatic toxicity - Component Information

Component	weight-%	Algae/aquatic plants	Fish	Toxicity to daphnia and other aquatic invertebrates
Aluminum Chloride 7446-70-0	< 30%	--	LC50 (96 h) 6.2 - 11.9 mg/L (Oncorhynchus mykiss) LC50 (96 h flow-through) 5.31 - 7.2 mg/L (Oncorhynchus mykiss) LC50 (96 h) = 27.1 mg/L (Gambusia affinis)	EC50 (48 h Static) = 3.9 mg/L (Daphnia magna)

Persistence and degradability

Persistence and degradability
No information available

Bioaccumulative potential

Bioaccumulative potential
No information available

Mobility

Mobility
No information available

Results of PBT and vPvB assessment

PBT and vPvB assessment
No information available

Other adverse effects

Other information
No other ecological studies have been carried out on this product.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging

Do not reuse empty containers. Since empty containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

<u>TDG</u>	Regulated
UN number	UN2581
Proper shipping name	ALUMINUM CHLORIDE SOLUTION
Hazard class	8
Packing group	III
ERG Number	154
<u>DOT</u>	Regulated
DOT UN/NA Number	UN2581
Proper shipping name	ALUMINUM CHLORIDE SOLUTION
Hazard class	8
Packing group	III
ERG Number	154
<u>ICAO/IATA</u>	Regulated
UN number	UN2581
Proper shipping name	ALUMINUM CHLORIDE SOLUTION
Hazard class	8
Packing group	III
ERG Code	8L
<u>IMDG</u>	Regulated
UN number	UN2581
Proper shipping name	ALUMINUM CHLORIDE SOLUTION
Hazard class	8
Packing group	III
EmS	F-A; S-B

15. REGULATORY INFORMATION**National Regulations**

Canada (DSL)
Not determined

Canada (NDSL)
Not determined

International Inventories

Australia (AICS)
Not determined

China (IECSC)
Not determined

European Union (EINECS)
Not determined

European Union (ELINCS)

Not determined

Japan (ENCS)

Not determined

South Korea (KECL)

Not determined

Philippines (PICCS)

Not determined

United States (TSCA)

Not determined

Legend

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

AICS - Australian Inventory of Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

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

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

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

16. OTHER INFORMATION

Product code	3204K
Revision date	2020-Dec-18
Revision number	2

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release 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 any other materials or in any process, unless specified in the text.

End of Safety Data Sheet