



**UNIVAR**

**Univar USA Inc.  
6100 Carillon Point  
Kirkland, WA 98033  
(425) 889-3400**

**For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300**

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The Version Date for this MSDS is : 08/25/2005

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PRODUCT IDENTIFICATION  
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PRODUCT NAME: SODIUM ALUMINATE, SOLUTION  
MSDS#: P21960VS  
DATE ISSUED: 11/01/2003  
SUPERSEDES: NEW  
ISSUED BY: 004293

This MSDS has been reviewed on 8/25/2005, and is current as of the DATE ISSUED above.

MATERIAL SAFETY DATA SHEET

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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION  
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United States Aluminate Company, Inc.  
9411 Philadelphia Rd.  
Suite H  
Baltimore, MD 21237  
800-882-3883

Emergency Telephone Number:  
CHEMTREC 800-424-9300  
Chemical emergency 24 hours a day  
Technical Information:

SUBSTANCE: SODIUM ALUMINATE, SOLUTION

TRADE NAMES/SYNONYMS:  
USALCO 38%, USALCO 43%, USALCO 45%, USALCO 45%SS, LIQUID SODIUM ALUMINATE

CHEMICAL FAMILY: inorganic, salt  
CREATION DATE: Nov 03 1997  
REVISION DATE: Nov 1 2003

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SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS  
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COMPONENT: SODIUM ALUMINATE, SOLUTION  
CAS NUMBER: 11138-49-1  
EC NUMBER (EINECS): 234-391-6  
PERCENTAGE: 100

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SECTION 3 HAZARDS IDENTIFICATION

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NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=1

EC CLASSIFICATION (CALCULATED):  
C Corrosive  
R 34

EMERGENCY OVERVIEW:

COLOR: amber  
PHYSICAL FORM: liquid  
ODOR: odorless  
MAJOR HEALTH HAZARDS: respiratory tract burns, skin burns, eye burns, mucous membrane burns

POTENTIAL HEALTH EFFECTS:

INHALATION:  
SHORT TERM EXPOSURE: burns, difficulty breathing  
LONG TERM EXPOSURE: same as effects reported in short term exposure  
SKIN CONTACT:  
SHORT TERM EXPOSURE: burns  
LONG TERM EXPOSURE: same as effects reported in short term exposure  
EYE CONTACT:  
SHORT TERM EXPOSURE: burns, eye damage  
LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: burns, nausea, vomiting, diarrhea, stomach pain  
LONG TERM EXPOSURE: same as effects reported in short term exposure

CARCINOGEN STATUS:

OSHA: N  
NTP: N  
IARC: N

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SECTION 4 FIRST AID MEASURES

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INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, qualified personnel should administer oxygen. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse. Destroy contaminated shoes.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Never make an unconscious person vomit or drink fluids. Give water or milk. DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. For ingestion, consider dilute acidic solution.

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#### SECTION 5 FIRE FIGHTING MEASURES

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FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water and regular foam

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Use extinguishing agents appropriate for surrounding fire. Large fires: Flood with fine water spray. Reduce vapors with water spray. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

FLASH POINT: not flammable

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#### SECTION 6 ACCIDENTAL RELEASE MEASURES

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##### OCCUPATIONAL RELEASE:

Do not touch spilled material. Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Surface may be rinsed clear with water and/or neutralized with lime or soda ash. Small dry spills: Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry.

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#### SECTION 7 HANDLING AND STORAGE

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Store in a cool, dry place and in tightly sealed containers. Keep separated from incompatible substances. Sodium aluminate solution is a suspended solids solution of alumina in sodium hydroxide. Under normal conditions, the solution is completely stable, however, there are several factors that may cause the material to precipitate. Do not let the material come into contact with moisture, dust or dirt. Avoid constant agitation or recirculation. Any of the above actions may introduce contaminants to the solution, which may cause precipitation.

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#### SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

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##### EXPOSURE LIMITS:

SODIUM ALUMINATE, SOLUTION:

ALUMINUM OXIDE (ALUMINA):

5 mg/m<sup>3</sup> OSHA TWA (respirable dust fraction)

15 mg/m<sup>3</sup> OSHA TWA (total dust)

10 mg/m<sup>3</sup> OSHA TWA (total particulate) (vacated by 58 FR 35338, June 30, 1993)  
10 mg/m<sup>3</sup> ACGIH TWA  
1.5 mg/m<sup>3</sup> DFG MAK (respirable dust fraction)  
1.5 mg/m<sup>3</sup> DFG MAK (peak limitation category-II, 2) (respirable dust fraction fume)  
0.25 fibers/cc AGS TRK (fibrous forms)  
10 mg/m<sup>3</sup> UK OES TWA (total inhalable dust)  
4 mg/m<sup>3</sup> UK OES TWA (respirable dust)

MEASUREMENT METHOD: Particulate filter; Gravimetric; NIOSH III # 0500, Nuisance Dust (total), # 0600 (respirable)

VENTILATION: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: While not normally required, respiratory protection may be required under conditions where extensive misting or fuming may occur due to insufficient or improper engineering controls.

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#### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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PHYSICAL STATE: liquid  
COLOR: amber  
ODOR: odorless  
MOLECULAR WEIGHT: 81.97  
MOLECULAR FORMULA: Na-Al-02  
BOILING POINT: 241 F (116 C)  
MELTING POINT: 3002-3272 F (1650-1800 C)  
VAPOR PRESSURE: Not available  
VAPOR DENSITY: Not available  
SPECIFIC GRAVITY (water=1): >1.50 @ 49 C  
WATER SOLUBILITY: soluble  
PH: 14.0  
VOLATILITY: Not available  
ODOR THRESHOLD: Not available  
EVAPORATION RATE: Not available  
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available  
SOLVENT SOLUBILITY:  
Insoluble: alcohol

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#### SECTION 10 STABILITY AND REACTIVITY

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REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: Acids

SODIUM ALUMINATE, SOLUTION: May react violently with strong acids.

HAZARDOUS DECOMPOSITION: Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

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SECTION 11 TOXICOLOGICAL INFORMATION

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SODIUM ALUMINATE, SOLUTION:

LOCAL EFFECTS:

Corrosive: inhalation, skin, eye, ingestion

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

CORROSIVE SUBSTANCES: May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. In some cases, pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure. Severe cases may be fatal.

CHRONIC EXPOSURE:

CORROSIVE SUBSTANCES: Depending on the concentration and duration of exposure, repeated or prolonged exposure may cause inflammatory and ulcerative changes in the mouth and possibly bronchial and gastrointestinal disturbances.

SKIN CONTACT:

ACUTE EXPOSURE:

CORROSIVE SUBSTANCES: Direct contact may cause severe irritation, pain and possibly burns.

CHRONIC EXPOSURE:

CORROSIVE SUBSTANCES: Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in dermatitis or effects similar to acute exposure.

EYE CONTACT:

ACUTE EXPOSURE: Direct contact may cause severe irritation, pain and burns, possibly severe. The degree of injury depends on the concentration and duration of contact. The full extent of the injury may not be immediately apparent.

CHRONIC EXPOSURE: Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in conjunctivitis or effects as in acute exposure.

INGESTION:

ACUTE EXPOSURE: May cause immediate pain and severe burns of the mucous membranes. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.

CHRONIC EXPOSURE: Depending on the concentration, repeated ingestion may cause effects as with acute ingestion.

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SECTION 12 ECOLOGICAL INFORMATION

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ECOTOXICITY DATA:

FISH TOXICITY: 5000-40000 ug/L 216 hour(s) ZERO (Mortality) Chinook salmon(*Oncorhynchus tshawytscha*)

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SECTION 13 DISPOSAL CONSIDERATIONS

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Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002.

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SECTION 14 TRANSPORT INFORMATION

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U.S. DOT 49 CFR 172.101 SHIPPING NAME-UN NUMBER: Sodium aluminate, solution-UN1819

U.S. DOT 49 CFR 172.101 HAZARD CLASS OR DIVISION: 8

U.S. DOT 49 CFR 172.101 PACKING GROUP: II

U.S. DOT 49 CFR 172.101 AND SUBPART E LABELING REQUIREMENTS: Corrosive

U.S. DOT 49 CFR 172.101 PACKAGING AUTHORIZATIONS:

EXCEPTIONS: 49 CFR 173.154

NON-BULK PACKAGING: 49 CFR 173.202

BULK PACKAGING: 49 CFR 173.242

U.S. DOT 49 CFR 172.101 QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: 1 L

CARGO AIRCRAFT ONLY: 30 L

LAND TRANSPORT ADR/RID:

SUBSTANCE NAME: Sodium aluminate solution

UN NUMBER: UN1819

ADR/RID CLASS: 8

ITEM NUMBER: 42(C)

WARNING SIGN/LABEL: 8

HAZARD ID NUMBER: 80

AIR TRANSPORT IATA/ICAO:

CORRECT TECHNICAL NAME: Sodium aluminate, solution

UN/ID NUMBER: UN1819

IATA/ICAO CLASS: 8

PACKAGING GROUP: III

LABEL: Corrosive

MARITIME TRANSPORT IMDG:

CORRECT TECHNICAL NAME: Sodium aluminate, solution

UN/ID NUMBER: UN1819

IMDG CLASS: 8

PACKAGING GROUP: II

EmS No.: 8-06

MFAG Table No.: 705

MARINE POLLUTANT: N

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SECTION 15 REGULATORY INFORMATION

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## U.S. REGULATIONS:

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): N

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): N

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: Y

CHRONIC: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

## STATE REGULATIONS:

California Proposition 65: N

## EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 234-391-6

## EC RISK AND SAFETY PHRASES:

R 34: Causes burns.

2: Keep out of reach of children.

20: When using do not eat or drink.

24: Avoid contact with skin.

25: Avoid contact with eyes.

26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

27: Take off immediately all contaminated clothing.

39: Wear eye/face protection.

46: If swallowed, seek medical advice immediately and show this container or label.

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SECTION 16 OTHER INFORMATION  
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## MSDS SUMMARY OF CHANGES

## SECTION 4 FIRST AID MEASURES

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END OF MSDS