

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Version: 4.0

Date of issue: 08/01/1997 Revision date: 06/29/2020 Supersedes: 05/14/2020

#### **SECTION 1: Identification**

#### 1.1. Identification

Product form : Mixture

Product name : ALUMA BRIGHT (SBI)

Product code : ALU

Other means of identification : Inorganic Acid Detergent

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Industrial and Institutional Aluminum Brightener

#### 1.3. Supplier

Sky Blue Industries, Inc. 760 W. Exchange Road Ogden, Utah 84401 - USA T (800) 998-2808

www.skyblueindustries.com

#### 1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300

#### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

#### **GHS US classification**

Acute Tox. 4 (Oral) Harmful if swallowed

Skin Corr. 1 Causes severe skin burns and eye damage

#### 2.2. GHS Label elements, including precautionary statements

#### **GHS US labeling**

Hazard pictograms (GHS-US)





Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : Harmful if swallowed

Causes severe skin burns and eye damage

Precautionary statements (GHS-US) : Do not breathe dust/fume/gas/mist/vapors/spray

Wash hands, forearms and face thoroughly after handling Do not eat, drink or smoke when using this product

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

If swallowed: Call a poison center/doctor/... if you feel unwell

If swallowed: rinse mouth. Do NOT induce vomiting

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with

water/shower

If inhaled: Remove person to fresh air and keep comfortable for breathing

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing

Immediately call a poison center/doctor/... Specific treatment (see ... on this label)

Rinse mouth

Wash contaminated clothing before reuse

Store locked up

Dispose of contents/container to ...

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

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#### **SECTION 3: Composition/Information on ingredients**

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name                         | Product identifier   | %       | GHS US classification   |
|------------------------------|----------------------|---------|---|
| Sulfuric acid                | (CAS-No.) 7664-93-9  | 10 – 20 | Skin Corr. 1A, H314<br>Aquatic Acute 3, H402  |
| Ammonium hydrogen difluoride | (CAS-No.) 1341-49-7  | ≥ 5     | Acute Tox. 3 (Oral), H301<br>Skin Corr. 1B, H314  |
| butyl glycolether            | (CAS-No.) 111-76-2   | 1 – 3   | Flam. Liq. 4, H227<br>Acute Tox. 4 (Oral), H302<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 4 (Inhalation), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2B, H320 |
| Sodium xylenesulfonate       | (CAS-No.) 1300-72-7  | 1 – 3   | Skin Irrit. 2, H315<br>Eye Irrit. 2B, H320<br>STOT SE 3, H335   |
| UNDECETH-5                   | (CAS-No.) 34398-01-1 | 1 – 3   | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319  |

Full text of hazard classes and H-statements : see section 16

#### **SECTION 4: First-aid measures**

#### 4.1. Description of first aid measures

First-aid measures general

: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a physician immediately.

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. An authorized person should administer oxygen to a victim who is having difficulty breathing, until the victim is able to breathe easily by himself. Calcium Gluconate, 2.5% in normal saline may be given by nebulizer with oxygen. Calcium Gluconate, 2.5% in normal saline may be given by nebulizer with oxygen.

First-aid measures after skin contact

Remove/Take off immediately all contaminated clothing. Wash immediately with lots of water (15 minutes)/shower. Immediately call a poison center or doctor/physician. 2.5% calcium gluconate gel may be continuously massaged into the burn area until the pain is relieved. For larger burns or burns treated with calcium gluconate gel (in which pain is present longer than 30 minutes), a physician should inject 5% aqueous calcium gluconate beneath, around and in the burned area. Rinse skin with water/shower. Call a physician immediately.

First-aid measures after eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician. Take victim to an ophthalmologist. Irrigate with 1% calcium gluconate in normal saline for 1 to 2 hours to prevent or lessen corneal damage. Call a physician immediately.

First-aid measures after ingestion

Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician. Obtain emergency medical attention. Take a copy of label and SDS to physician or emergeny rescuer. Do not induce vomiting. Call a physician immediately.

#### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and

symptoms

: Based on available data, the classification criteria are not met. Harmful if swallowed.

Symptoms/injuries : Causes severe skin burns and eye damage.

Symptoms/injuries after skin contact Symptoms/injuries after eye contact

: Serious damage to eyes.

· Burns

Symptoms/injuries after ingestion

: Swallowing a small quantity of this material will result in serious health hazard. Burns.

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically. For large skin burns, for ingestion and for significant inhalation exposure, severe systematic effect may occur. Monitor and correct for hypocalcemia, cardiac arrhythmias, hypomagnesemia and hyperkalemia. In some cases hemodialysis may be indicated. For inhalation exposure, treat as chemical pneumonia. Monitor for hypocalcemia. 2.5% calcium gluconate in normal saline by nebulizer or by IPPB with 100% oxygen may decrease pulmonary damage. Bronchodilators may also be administered.

#### **SECTION 5: Fire-fighting measures**

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

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#### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of

: Toxic fumes may be released.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions

: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting

: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

#### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

**Emergency procedures** 

: Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

#### 6.1.2. For emergency responders

Protective equipment

: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. See Section 12 for additional Ecological information. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up

: Take up liquid spill into absorbent material. Neutralize spill with soda (sodium carbonate) or slaked lime. Wash away neutralized product with plentiful water. Notify authorities if product enters sewers or public waters.

Other information

: Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

#### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling

: Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes.

Hygiene measures

Do not eat, drink or smoke when using this product. Wash hands and other exposed skin thoroughly after handling. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures

: Comply with applicable regulations.

Storage conditions

: Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use. Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible products

: Strong bases. Strong oxidizing agents. Strong reducing agents. Glass, concrete and other silicone bearing materials: yields silicon tetrafluoride gas. Metals.

Incompatible materials

Sources of ignition. Direct sunlight.

Information on mixed storage

: Store separately from incompatible products/materials.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| . i. Control parameters                    |                        |  |  |
|--|------------------------|--|--|
| ALUMA BRIGHT (SBI)                         |                        |  |  |
| No additional information available        |                        |  |  |
| Ammonium hydrogen difluoride (1341-49-7)   |                        |  |  |
| No additional information available        |                        |  |  |
| Sulfuric acid (7664-93-9)                  |                        |  |  |
| USA - ACGIH - Occupational Exposure Limits |                        |  |  |
| Local name                                 | Sulfuric acid          |  |  |
| ACGIH TWA (mg/m³)                          | 0.2 mg/m³              |  |  |
| Remark (ACGIH)                             | Pulm func              |  |  |
| USA - OSHA - Occupational Exposure Limits  |                        |  |  |
| Local name                                 | Sulfuric acid          |  |  |
| OSHA PEL (TWA) (mg/m³)                     | 1 mg/m³                |  |  |
| butyl glycolether (111-76-2)               |                        |  |  |
| USA - ACGIH - Occupational Exposure Limits |                        |  |  |
| Local name                                 | 2-Butoxyethanol (EGBE) |  |  |
| ACGIH TWA (ppm)                            | 20 ppm                 |  |  |
| Remark (ACGIH)                             | Eye & URT irr          |  |  |
| USA - OSHA - Occupational Exposure Limits  |                        |  |  |
| Local name                                 | 2-Butoxyethanol        |  |  |
| OSHA PEL (TWA) (mg/m³)                     | 240 mg/m³              |  |  |
| OSHA PEL (TWA) (ppm)                       | 50 ppm                 |  |  |
| UNDECETH-5 (34398-01-1)                    |                        |  |  |
| No additional information available        |                        |  |  |
| Sodium xylenesulfonate (1300-72-7)         |                        |  |  |
| No additional information available        |                        |  |  |

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear protective gloves

#### Eye protection:

Chemical goggles or face shield. Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Wear appropriate mask. Wear respiratory protection

#### Personal protective equipment symbol(s):



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#### Other information:

Do not eat, drink or smoke during use.

#### **SECTION 9: Physical and chemical properties**

#### 9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Colourless to light yellow

Odor : Acidic

Odor threshold : No data available

pH : < 1.5 pH solution : 1 %

Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available

Flash point : > 212 °F

Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Non flammable. Vapor pressure : No data available Relative vapor density at 20 °C : No data available

Relative density : 1.17 Specific gravity / density : 9.99 lb/gal Solubility : Soluble in water. Partition coefficient n-octanol/water (Log Pow) : No data available Auto-ignition temperature : No data available Decomposition temperature : No data available Viscosity, kinematic : No data available Viscosity, dynamic No data available **Explosion limits** : No data available : No data available Explosive properties : No data available Oxidizing properties

#### 9.2. Other information

VOC content : 1.3 %

#### **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

Thermal decomposition generates: Corrosive vapors. Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen).

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong bases. Strong oxidizing agents. Stron reducing agents. metals. Glass, concrete and other silicone bearing materials: yields silicon tetrafluoride gas.

#### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapors.

#### **SECTION 11: Toxicological information**

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.

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|---|--|--|
| Acute toxicity (dermal)                                   | : Not classified   |  |
| Acute toxicity (inhalation)                               | : Not classified   |  |
| ATE US (oral)   | 1716.876 mg/kg body weight   |  |
| Ammonium hydrogen difluoride (1341-49-7)                  |  |  |
| LD50 oral rat   | 130 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)  |  |
| Sulfuric acid (7664-93-9)                                 |  |  |
| LD50 oral rat   | 2140 mg/kg body weight (Rat, Experimental value, Oral)   |  |
| butyl glycolether (111-76-2)                              |  |  |
| LD50 oral rat   | 1746 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)  |  |
| LD50 dermal rat   | > 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)  |  |
| LD50 dermal rabbit  | 435 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity; 435 mg/kg bodyweight; Rabbit; Weight of evidence; Equivalent or similar to OECD 402) |  |
| LC50 inhalation rat (ppm)                                 | 450-486,Rat; Weight of evidence  |  |
| UNDECETH-5 (34398-01-1)                                   |  |  |
| LD50 oral rat   | > 1400 mg/kg   |  |
| LD50 dermal rabbit  | > 2000 mg/kg   |  |
| Sodium xylenesulfonate (1300-72-7)                        |  |  |
| LD50 oral rat   | > 7000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Read-across, Oral, 14 day(s))   |  |
| LD50 dermal rabbit  | > 2000 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Read-across, Dermal, 14 day(s))   |  |
| Skin corrosion/irritation                                 | : Causes severe skin burns.  |  |
|   | pH: < 1.5  |  |
| Serious eye damage/irritation                             | : Assumed to cause serious eye damage  |  |
|   | pH: < 1.5  |  |
| Respiratory or skin sensitization                         | : Not classified   |  |
| Germ cell mutagenicity                                    | : Not classified   |  |
| Carcinogenicity   | : Not classified   |  |
| Sulfuric acid (7664-93-9)                                 |  |  |
| National Toxicology Program (NTP) Status                  | Known Human Carcinogens  |  |
| Denne du etiro de viele.                                  | . Net slees God  |  |

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

| Sodium xylenesulfonate (1300-72-7)                  |   |
|---|---|
| Specific target organ toxicity – single exposure    | May cause respiratory irritation.   |
| Specific target organ toxicity – repeated exposure  | : Not classified  |
| Aspiration hazard                                   | : Not classified  |
| Viscosity, kinematic                                | : No data available   |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. Harmful if swallowed.   |
| Symptoms/injuries                                   | : Causes severe skin burns and eye damage.  |
| Symptoms/injuries after skin contact                | : Burns.  |
| Symptoms/injuries after eye contact                 | : Serious damage to eyes.   |
| Symptoms/injuries after ingestion                   | : Swallowing a small quantity of this material will result in serious health hazard. Burns. |

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#### **SECTION 12: Ecological information**

#### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

| Ammonium hydrogen difluoride (1341-49-7) |   |
|--|---|
| LC50 fish 1                              | 562 mg/l (LC50; 96 h; Brachydanio rerio)  |
| Sulfuric acid (7664-93-9)                |   |
| LC50 fish 1                              | 42 mg/l (96 h, Gambusia affinis)  |
| EC50 Daphnia 1                           | 29 mg/l (24 h, Daphnia magna)   |
| butyl glycolether (111-76-2)             |   |
| LC50 fish 1                              | 1474 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)       |
| EC50 Daphnia 1                           | 1550 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration) |
| ErC50 (algae)                            | 911 mg/l (72 Hr.)   |
| UNDECETH-5 (34398-01-1)                  |   |
| LC50 fish 1                              | 1 – 10 mg/l (96 hr.)  |
| EC50 Daphnia 1                           | 1 – 10 mg/l (48 hr.)  |
| EC50 other aquatic organisms 1           | 1 – 10 mg/l (96 hr.)(Algae)   |
| Sodium xylenesulfonate (1300-72-7)       |   |
| LC50 fish 1                              | > 1000 mg/l (EPA OTS 797.1400, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value)   |
| EC50 Daphnia 1                           | > 1000 mg/l (EPA OTS 797.1300, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)   |

#### 12.2. Persistence and degradability

| ALUMA BRIGHT (SBI)                       |   |  |
|--|---|--|
| Persistence and degradability            | Not established.  |  |
| Ammonium hydrogen difluoride (1341-49-7) |   |  |
| Persistence and degradability            | Biodegradability: not applicable.   |  |
| Chemical oxygen demand (COD)             | Not applicable (inorganic)  |  |
| ThOD                                     | Not applicable (inorganic)  |  |
| Sulfuric acid (7664-93-9)                |   |  |
| Persistence and degradability            | Biodegradability: not applicable.   |  |
| Chemical oxygen demand (COD)             | Not applicable  |  |
| ThOD                                     | Not applicable  |  |
| BOD (% of ThOD)                          | Not applicable  |  |
| butyl glycolether (111-76-2)             |   |  |
| Persistence and degradability            | Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air. |  |
| Biochemical oxygen demand (BOD)          | 0.71 g O₂/g substance   |  |
| Chemical oxygen demand (COD)             | 2.2 g O₂/g substance  |  |
| ThOD                                     | 2.305 g O₂/g substance  |  |
| BOD (% of ThOD)                          | 0.31  |  |
| Sodium xylenesulfonate (1300-72-7)       |   |  |

# Persistence and degradability 12.3. Bioaccumulative potential

| ALUMA BRIGHT (SBI)                         |                      |  |
|--|----------------------|--|
| Bioaccumulative potential Not established. |                      |  |
| Ammonium hydrogen difluoride (1341-49-7)   |                      |  |
| Bioaccumulative potential                  | Not bioaccumulative. |  |

Readily biodegradable in water.

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| Sulfuric acid (7664-93-9)                       |   |  |  |
|---|---|--|--|
| Partition coefficient n-octanol/water (Log Pow) | -2.2 (Estimated value)  |  |  |
| Bioaccumulative potential                       | Not bioaccumulative.  |  |  |
| butyl glycolether (111-76-2)                    |   |  |  |
| Partition coefficient n-octanol/water (Log Pow) | 0.81 (Experimental value; BASF test; 25 °C)                             |  |  |
| Bioaccumulative potential                       | Low potential for bioaccumulation (Log Kow < 4).                        |  |  |
| Sodium xylenesulfonate (1300-72-7)              |   |  |  |
| Partition coefficient n-octanol/water (Log Pow) | -3.12 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C) |  |  |
| Bioaccumulative potential                       | Not bioaccumulative.  |  |  |

#### 12.4. Mobility in soil

| Ammonium hydrogen difluoride (1341-49-7) |   |  |
|--|---|--|
| Ecology - soil                           | No (test)data on mobility of the substance available. |  |
| butyl glycolether (111-76-2)             |   |  |
| Surface tension                          | 0.027 N/m (25 °C)                                     |  |
| Ecology - soil                           | Low potential for adsorption in soil.                 |  |
| Sodium xylenesulfonate (1300-72-7)       |   |  |
| Surface tension                          | 71 mN/m (20 °C, 90 %, EU Method A.5: Surface tension) |  |
| Ecology - soil                           | No (test)data on mobility of the substance available. |  |

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

#### **SECTION 13: Disposal considerations**

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of

contents/container to comply with local/state/federal regulations.

Ecology - waste materials : Avoid release to the environment.

#### **SECTION 14: Transport information**

#### **Department of Transportation (DOT)**

In accordance with DOT

Transport document description : UN3264 Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Hydrofluoric acid), 8, II

UN-No.(DOT) : UN3264

Proper Shipping Name (DOT) : Corrosive liquid, acidic, inorganic, n.o.s.

Sulfuric acid, Hydrofluoric acid

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : II - Medium Danger Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202 DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Symbols : G - Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)

: B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.

IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the

MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154 DOT Quantity Limitations Passenger aircraft/rail : 1 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 30 L CFR 175.75)

**DOT Vessel Stowage Location** 

: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

**DOT Vessel Stowage Other** : 40 - Stow "clear of living quarters" Other information

#### **Transportation of Dangerous Goods**

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

: No supplementary information available.

#### **SECTION 15: Regulatory information**

#### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

| Oxalic acid, dihydrate         CAS-No. 6153-56-6         0.1 – 1% |
|---|
|---|

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

| Oxalic acid  | CAS-No. 144-62-7 | < 0.1% |
|--------------|------------------|--------|
| Acetaldehyde | CAS-No. 75-07-0  | < 0.1% |

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| Sulfuric acid   | CAS-No. 7664-93-9 | 10 – 20% |
|-----------------|-------------------|----------|
| ethylene glycol | CAS-No. 107-21-1  | < 0.1%   |
| Ethylene oxide  | CAS-No. 75-21-8   | < 0.1%   |
| Acetaldehyde    | CAS-No. 75-07-0   | < 0.1%   |

| Ammonium hydrogen difluoride (1341 | -49-7) |  |
|------------------------------------|--------|--|
| CERCLA RQ                          | 100 lb |  |
| Ammonium fluoride (12125-01-8)     |        |  |
| CERCLA RQ                          | 100 lb |  |

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| Sulfuric acid (7664-93-9)                                    |   |
|--|---|
| CERCLA RQ  | 1000 lb   |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 1000 lb   |
| SARA Section 302 Threshold Planning Quantity (TPQ)           | 1000 lb   |
| Oxalic acid (144-62-7)                                       |   |
| EPA TSCA Regulatory Flag                                     | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.  |
| butyl glycolether (111-76-2)                                 |   |
| SARA Section 311/312 Hazard Classes                          | Fire hazard<br>Immediate (acute) health hazard<br>Delayed (chronic) health hazard   |
| ethylene glycol (107-21-1)                                   |   |
| Listed on EPA Hazardous Air Pollutant (HAPS)                 |   |
| CERCLA RQ  | 5000 lb   |
| UNDECETH-5 (34398-01-1)                                      |   |
| EPA TSCA Regulatory Flag                                     | N - N - indicates a polymeric substance containing no free-radical initiator in its Inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used. P - P - indicates a commenced PMN substance. XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)). |
| SARA Section 311/312 Hazard Classes                          | Immediate (acute) health hazard   |
| Ethylene oxide (75-21-8)                                     |   |
| Listed on EPA Hazardous Air Pollutant (HAPS)                 |   |
| CERCLA RQ  | 10 lb   |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 10 lb   |
| SARA Section 302 Threshold Planning Quantity (TPQ)           | 1000 lb   |
| Acetaldehyde (75-07-0)                                       |   |
| Listed on EPA Hazardous Air Pollutant (HAPS)                 |   |
| EPA TSCA Regulatory Flag                                     | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.  |
| CERCLA RQ  | 1000 lb   |
|  |   |

#### 15.2. International regulations

#### Sulfuric acid (7664-93-9)

Listed as carcinogen on NTP (National Toxicology Program)

#### Ethylene oxide (75-21-8)

Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program)

### Acetaldehyde (75-07-0)

Listed as carcinogen on NTP (National Toxicology Program)

#### 15.3. US State regulations



This product can expose you to Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

| Component                               | State or local regulations                              |
|---|---|
| Ammonium hydrogen difluoride(1341-49-7) | U.S New Jersey - Right to Know Hazardous Substance List |

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| Component                     | State or local regulations                              |
|-------------------------------|---|
| Ammonium fluoride(12125-01-8) | U.S New Jersey - Right to Know Hazardous Substance List |
| Sulfuric acid(7664-93-9)      | U.S New Jersey - Right to Know Hazardous Substance List |
| butyl glycolether(111-76-2)   | U.S New Jersey - Right to Know Hazardous Substance List |
| ethylene glycol(107-21-1)     | U.S New Jersey - Right to Know Hazardous Substance List |
| Ethylene oxide(75-21-8)       | U.S New Jersey - Right to Know Hazardous Substance List |
| Acetaldehyde(75-07-0)         | U.S New Jersey - Right to Know Hazardous Substance List |
| Oxalic acid(144-62-7)         | U.S New Jersey - Right to Know Hazardous Substance List |

### **SECTION 16: Other information**

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Revision date : 06/29/2020 Other information : None.

### Full text of H-phrases:

| Acute Tox. 3 (Dermal)     | Acute toxicity (dermal) Category 3                             |
|---------------------------|--|
| Acute Tox. 3 (Oral)       | Acute toxicity (oral) Category 3                               |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhalation) Category 4                         |
| Acute Tox. 4 (Oral)       | Acute toxicity (oral) Category 4                               |
| Aquatic Acute 3           | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Eye Irrit. 2A             | Serious eye damage/eye irritation Category 2A                  |
| Eye Irrit. 2B             | Serious eye damage/eye irritation Category 2B                  |
| Flam. Liq. 4              | Flammable liquids Category 4                                   |
| Skin Corr. 1              | Skin corrosion/irritation Category 1                           |
| Skin Corr. 1A             | Skin corrosion/irritation Category 1A                          |
| Skin Corr. 1B             | Skin corrosion/irritation Category 1B                          |
| Skin Irrit. 2             | Skin corrosion/irritation Category 2                           |
| STOT SE 3                 | Specific target organ toxicity (single exposure) Category 3    |
| H227                      | Combustible liquid   |
| H301                      | Toxic if swallowed   |
| H302                      | Harmful if swallowed   |
| H311                      | Toxic in contact with skin                                     |
| H314                      | Causes severe skin burns and eye damage                        |
| H315                      | Causes skin irritation   |
| H319                      | Causes serious eye irritation                                  |
| H320                      | Causes eye irritation  |
| H332                      | Harmful if inhaled   |
| H335                      | May cause respiratory irritation                               |
| H402                      | Harmful to aquatic life  |

SDS US (GHS HazCom 2012)

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