

OptiSource™

The Optical Supply Resource

40 Sawgrass Drive, Bellport, NY 11713-1564

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1. PRODUCT AND COMPANY IDENTIFICATION

Product identifiers

Product name : AR remover

Product identifier: 99-AR

Other means of identification: 99-ARK-, 99-ARQ, 99-ARC8

Brand : OptiSource Index-No. : 009-009-00-4 CAS-No. : 1341-49-7

Relevant identified uses of the substance or mixture and uses advised against Identified uses :

Removing AR coating, only use in recommended manner.

Details of the supplier of the safety data sheet

Company : OptiSource

40 Sawgrass Dr

Bellport, NY 11713

USA Telephone : +1-631-924-8360

Emergency telephone number Emergency Phone # : 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity, Oral (Category 3)

Skin corrosion (Category 1B),

Serious eye damage (Category 1)

GHS Label elements

Pictogram



Signal word Danger

Hazard statement(s)

Toxic if swallowed.

Causes severe skin burns.

Causes serious eye damage.

Precautionary statement(s)

Do not breathe dust or mist.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.

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. 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. Immediately call a POISON CENTER or doctor/ physician.

Wash contaminated clothing before reuse.

Store locked up.

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

Hazards not otherwise classified (HNOC) or not covered by GHS: No data available

3.COMPOSITION/INFORMATION ON INGREDIENTS

Substances Synonyms : Etching powder Formula : $\text{H}_5\text{F}_2\text{N}$ Molecular weight : 57.04 g/mol

Ammonium hydrogen difluoride- 80%

CAS-No. : 1341-49-7 EC-No. : 215-676-4 Index-No. : 009-009-00-4

Trade Secret formula- 20%

20% of mixture is a trade secret and composition has been withheld.

4. FIRST AID MEASURES

Description of first aid measures General advice Consult a physician.

Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

If inhaled, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

In case of skin contact Take off contaminated clothing and shoes immediately.

Wash off with soap and plenty of water.

Take victim immediately to hospital.

Consult a physician.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Continue rinsing eyes during transport to hospital.

If swallowed Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed No data available

5. FIREFIGHTING MEASURES

Extinguishing media Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture Nitrogen oxides (NO_x), Hydrogen fluoride

Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

Further information No data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Wear respiratory protection.

Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up Pick up and arrange disposal without creating dust. If in liquid form absorb using inert material. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections For disposal see section 13.

7. HANDLING AND STORAGE

Precautions for safe handling

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters Components with workplace control parameters Component CAS-No. Value Control parameters Basis Ammonium bifluoride 1341-49-7 TWA 2.500000 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants Remarks CAS number varies with compound TWA 2.500000 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-2 Z37.28-9 TWA 2.500000 mg/m³ USA. ACGIH Threshold Limit Values (TLV) Bone damage Fluorosis Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen varies TWA 2.500000 mg/m³ USA. ACGIH Threshold Limit Values (TLV) Bone damage Fluorosis Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen varies Biological occupational exposure limits Component CAS-No. Parameters Value Biological specimen Basis Ammonium bifluoride 1341-49-7 Fluoride 3.0000 mg/g Urine ACGIH - Biological Exposure Indices (BEI) Remarks Prior to shift (16 hours after exposure ceases) Fluoride 10.0000 mg/g Urine ACGIH - Biological Exposure Indices (BEI) End of shift (As soon as possible after exposure ceases) Fluoride 3.0000 mg/g Urine ACGIH - Biological Exposure Indices (BEI) Prior to shift (16 hours after exposure ceases) Fluoride 10.0000 mg/g Urine ACGIH - Biological Exposure Indices (BEI) End of shift (As soon as possible after exposure ceases) Fluoride 2 mg/l Urine ACGIH - Biological Exposure Indices (BEI) Prior to shift (16 hours after exposure ceases) Fluoride 3 mg/l Urine ACGIH - Biological Exposure Indices (BEI) End of shift (As soon as possible after exposure ceases)

Exposure controls Appropriate engineering controls Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Personal protective equipment Eye/face protection Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. Body Protection Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control of environmental exposure Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- Appearance Form: crystalline Colour: white
- Odour No data available
- Odour Threshold No data available
- pH No data available
- Melting point/freezing point Melting point/range: 125 °C (257 °F) - lit.
- Initial boiling point and boiling range No data available

- g) Flash point Not applicable
 - h) Evaporation rate No data available
 - i) Flammability (solid, gas) No data available
 - j) Upper/lower flammability or explosive limits No data available
 - k) Vapour pressure No data available
 - l) Vapour density No data available
 - m) Relative density 1.500 g/cm³
 - n) Water solubility No data available
 - o) Partition coefficient: noctanol/water No data available
 - p) Auto-ignition temperature No data available
 - q) Decomposition temperature No data available
 - r) Viscosity No data available
 - s) Explosive properties No data available
 - t) Oxidizing properties No data available
- Other safety information No data available

10. STABILITY AND REACTIVITY

Reactivity No data available

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions No data available

Conditions to avoid Avoid moisture.

Incompatible materials Strong oxidizing agents

Hazardous decomposition products Other decomposition products - No data available In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity Inhalation: No data available

Dermal: No data available No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitisation No data available

Germ cell mutagenicity No data available

Carcinogenicity IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Ammonium bifluoride)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity No data

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

Additional Information RTECS: BQ9200000 Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

12. ECOLOGICAL INFORMATION

Toxicity No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects No data available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contaminated packaging Dispose of as unused product. Ensure disposal is in accordance with local/state/national laws.

14. TRANSPORT INFORMATION DOT (US)

UN number: 2817 Class: 8 (6.1) Packing group: II Proper shipping name: Ammonium hydrogendifluoride, solution Reportable Quantity (RQ): 100 lbs Poison Inhalation Hazard: No IMDG UN number: 2817 Class: 8(6.1) packing group: II EMS-No: F-A, S-B Proper shipping name: AMMONIUM HYDROGENDIFLUORIDE, SOLID IATA UN number: 1727 Class: 8 Packing group: II Proper shipping name: Ammonium hydrogendifluoride, solid

15. REGULATORY INFORMATION

SARA 302 Components No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313 Components This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. SARA 311/312 Hazards Acute Health Hazard Massachusetts Right To Know Components Ammonium bifluoride CAS-No. 1341-49-7 Revision Date 1993-04-24 Pennsylvania Right To Know Components Ammonium bifluoride CAS-No. 1341-49-7 Revision Date 1993-04-24 New Jersey Right To Know Components Ammonium bifluoride CAS-No. 1341-49-7 Revision Date 1993-04-24 California Prop. 65 Components This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION Full text of H-Statements referred to under sections 2 and 3. Acute Tox. Acute toxicity Eye Dam. Serious eye damage H301 Toxic if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. Skin Corr. Skin corrosion HMIS Rating Health hazard: 3 Chronic Health Hazard: Flammability: 0 Physical Hazard 0 NFPA Rating Health hazard: 3 Fire Hazard: 0 Reactivity Hazard: 0 Further information Copyright 2015 OptiSource Co. LLC. License granted to make unlimited paper copies for internal use only. 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. OptiSource and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product
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