

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (3N) 99.9% Sodium Bisulfate Monohydrate

Product Code: NA-HSAT-03-C.1HYD

CAS Number: 10034-88-5

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements 10884 Weyburn Ave. Los Angeles, CA 90024 Tel: +1 310-208-0551 Fax: +1 310-208-0351 Emergency telephone number: +1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS) GHS05 Corrosion Eye Dam. 1 H318 Causes serious eye damage. Hazards not otherwise classified No information known. Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms



GHS05 Signal word: Danger Hazard statements H318 Causes serious eye damage. Precautionary statements P262 Do not get in eyes, on skin, or on clothing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. WHMIS classification D2B - Toxic material causing other toxic effects E - Corrosive material Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 2 Flammability = 0 Physical Hazard = 1 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Substances CAS# Description: 10034-88-5 Sodium hydrogen sulfate monohydrate Identification number(s): EC number: 231-665-7 Index number: 016-046-00-X

SECTION 4. FIRST AID MEASURES

Description of first aid measures After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice. After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed Causes serious eye damage. Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Sulfur oxides (SOx) Sodium oxide Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Environmental precautions: Do not allow product to reach sewage system or any water course. Methods and material for containment and cleaning up: Pick up mechanically. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling Precautions for safe handling Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: The product is not flammable Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from water/moisture. Store away from oxidizing agents. Further information about storage conditions: Store under dry inert gas. This product is hygroscopic. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Protect from humidity and water. Specific end use(s) No further relevant information available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. **Control parameters** Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. Additional information: No data **Exposure** controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Recommended filter device for short term use: Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipm ent tested and approved under appropriate government standards. Protection of hands: Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Material of gloves Nitrile rubber, NBR Penetration time of glove material (in minutes) 480 Glove thickness 0.11 mm Eve protection: Tightly sealed goggles Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties General Information Appearance: Form: Crystalline Odor: Not determined Odor threshold: Not determined. pH-value: Not applicable. Change in condition Melting point/Melting range: ca 183 °C (ca 361 °F) (dec)

Boiling point/Boiling range: Not determined Sublimation temperature / start: Not determined Flammability (solid, gaseous): Not determined. Ignition temperature: Not determined Decomposition temperature: Not determined Auto igniting: Not determined. Danger of explosion: Not determined. **Explosion limits:** Lower: Not determined Upper: Not determined Vapor pressure: Not applicable. **Density: Not determined** Relative density: Not determined. Vapor density: Not applicable. Evaporation rate: Not applicable. Solubility in / Miscibility with Water at 20 °C (68 °F): 1080 g/l Partition coefficient (n-octanol/water): Not determined. Viscositv: dynamic: Not applicable. kinematic: Not applicable. Other information No further relevant information available

SECTION 10. STABILITY AND REACTIVITY

Reactivity No information known. Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions Reacts with strong oxidizing agents Conditions to avoid No further relevant information available. Incompatible materials: Water/moisture Oxidizing agents Hazardous decomposition products: Sulfur oxides (SOx) Sodium oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance. LD/LC50 values that are relevant for classification: No data Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: Causes serious eye damage.

Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Carcinogenic categories OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. **Bioaccumulative potential** No further relevant information available. Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage svstem. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA UN3260 UN proper shipping name DOT Corrosive solid, acidic, inorganic, n.o.s. (Sodium hydrogen sulfate monohydrate) IMDG, IATA CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Sodium hydrogen sulfate monohydrate) Transport hazard class(es) DOT Class 8 Corrosive substances. Label 8 Class 8 (C2) Corrosive substances Label 8 IMDG, IATA Class 8 Corrosive substances. Label 8 Packing group DOT, IMDG, IATA Ш Environmental hazards: Not applicable. Special precautions for user Warning: Corrosive substances EMS Number: F-A.S-B Segregation groups Acids Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. Transport/Additional information: DOT Marine Pollutant (DOT): No UN "Model Regulation": UN3260, Corrosive solid, acidic, inorganic, n.o.s. (Sodium hydrogen sulfate monohydrate), 8, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms GHS05 Signal word: Danger Hazard statements H318 Causes serious eye damage. Precautionary statements P262

Do not get in eyes, on skin, or on clothing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Co ntinue rinsing. National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical sub stance Inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL). SARA Section 313 (specific toxic chemical listings) Substance is not listed. California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.