

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Sodium Chromate

Product Code: NA-CRAT-04

CAS Number: 7775-11-3

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) GHS06 Skull and crossbones Acute Tox. 3 H301 Toxic if swallowed. Acute Tox. 2 H330 Fatal if inhaled. GHS08 Health hazard Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. Muta. 1B H340 May cause genetic defects. Carc. 1B H350 May cause cancer. Repr. 1A H360 May damage fertility or the unborn child. STOT RE 1 H372 Causes damage to the central nervous system, the lung and the blood through prolonged or repeated exposure. Route of exposure: Inhalative. GHS05 Corrosion Skin Corr. 1B H314 Causes severe skin burns and eye damage. Eye Dam. 1

H318 Causes serious eye damage. GHS07 Acute Tox. 4 H312 Harmful in contact with skin. Skin Sens. 1 H317 May cause an allergic skin reaction. Hazards not otherwise classified No data available GHS label elements GHS label elements, including precautionary statements Hazard pictograms



GHS05 GHS06 GHS08 Signal word Danger Hazard statements H301 Toxic if swallowed. H312 Harmful in contact with skin. H330 Fatal if inhaled. H314 Causes severe skin burns and eye damage. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 May cause an allergic skin reaction. H340 May cause genetic defects. H350 May cause cancer. H360 May damage fertility or the unborn child. H372 Causes damage to the central nervous system, the lung and the blood through prolonged or repeated exposure. Route of exposure: Inhalative. Precautionary statements P260 Do not breathe dust/fume/gas/mist/vapors/spray. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P320 Specific treatment is urgent (see on this label). P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification D1A - Very toxic material causing immediate and serious toxic effects D2A - Very toxic material causing other toxic effects E - Corrosive material Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 3Flammability = 0Physical Hazard = 1 Other hazards Results of PBT and vPvB assessment

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances CAS No. / Substance Name: 7775-11-3 Sodium chromate Identification number(s): EC number: 231-889-5 Index number: 024-018-00-3

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing has been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration. If inhaled: Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm. Seek immediate medical advice. In case of skin contact: Immediately wash with soap and water; rinse thoroughly. Seek immediate medical advice. In case of eye contact: Rinse opened eye for several minutes under running water. Consult a physician. If swallowed: Do not induce vomiting; immediately call for medical help. Information for doctor Most important symptoms and effects, both acute and delayed Causes severe skin burns. Causes serious eye damage. Indication of any immediate medical attention and special treatment needed No data 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: Sodium oxide Chromium oxides Advice for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without official permits. Methods and materials for containment and cleanup: Use neutralizing agent. Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation. 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. Open and handle container with care. Information about protection against explosions and fires: The product is not flammable Conditions for safe storage, including any incompatibilities 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 strong bases. Store away from reducing 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 data 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: 7775-11-3 Sodium chromate (100.0%) PEL (USA) Long-term value: 0.005* mg/m³ Ceiling limit value: 0.1** mg/m³ *as Cr(VI) **as CrO3; see 29 CFR 1910.1026 REL (USA) Long-term value: 0.001 mg/m³ as Cr; See Pocket Guide Apps. A and C TLV (USA) Long-term value: 0.05 mg/m³ as Cr: BEI EL (Canada) Short-term value: C0.1 mg/m³ Long-term value: 0.025 mg/m³ as Cr; ACIGH A1, IARC 1 Ingredients with biological limit values: 7775-11-3 Sodium chromate (100.0%) BEI (USA) 25 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (fume) 10 µg/L Medium: urine Time: increase during shift Parameter: Total chromium (fume) Additional information: No data Exposure controls Personal protective equipment Follow typical protective and hygienic practices for handling chemicals. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use self-contained respiratory protective device in emergency situations. 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 equipment tested and approved under appropriate government standards. Protection of hands: Impervious gloves Inspect gloves prior to use. Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.

Material of gloves Nitrile rubber, NBR Penetration time of glove material (in minutes) 480 Glove thickness 0.11 mm Eye protection: Tightly sealed goggles Full face protection Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance: Form: Crystalline Color: Yellow Odor: Odorless Odor threshold: Not determined. pH: N/A Melting point/Melting range: 792 °C (1458 °F) Boiling point/Boiling range: Not determined Sublimation temperature / start: Not determined Flammability (solid, gas) Not determined. Ignition temperature: Not determined Decomposition temperature: Not determined Autoignition: Not determined. Danger of explosion: Not determined. **Explosion limits:** Lower: Not determined Upper: Not determined Vapor pressure: N/A Density at 20 °C (68 °F): 2.72 g/cm³ (22.698 lbs/gal) Relative densitv Not determined. Vapor density N/A Evaporation rate N/A Solubility in / Miscibility with Water at 20 °C (68 °F): 530 g/l Soluble Partition coefficient (n-octanol/water): Not determined. Viscosity: Dynamic: N/A Kinematic: N/A Other information No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity No data available 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 data available Incompatible materials: Water/moisture **Bases Reducing agents** Hazardous decomposition products: Sodium oxide Chromium oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity: Harmful in contact with skin. Fatal if inhaled Toxic if swallowed. Danger through skin absorption. Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance. LD/LC50 values that are relevant for classification: Oral LD50 136 mg/kg (rat) Skin irritation or corrosion: Causes severe skin burns. Eye irritation or corrosion: Causes serious eye damage. Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Germ cell mutagenicity: May cause genetic defects. The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Carcinogenicity: May cause cancer. IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity. ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans. NTP-K: Known to be carcinogenic: sufficient evidence from human studies. (inhalation) EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.

(inhalation) EPA-K: Known human carcinogens. (oral) EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available. (oral) EPA-CBD: Carginogenic potential cannot be determined. Reproductive toxicity: May damage fertility or the unborn child. The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance. Specific target organ system toxicity - repeated exposure: Causes damage to the central nervous system, the lung and the blood through prolonged or repeated exposure. Route of exposure: Inhalative. 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 data available Persistence and degradability No data available **Bioaccumulative potential** No data available Mobility in soil No data available Ecotoxical effects: Remark: Very toxic for aquatic organisms Additional ecological information: Do not allow material to be released to the environment without official permits. Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Very toxic for aquatic organisms Results of PBT and vPvB assessment PBT: N/A vPvB: N/A Other adverse effects

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods Recommendation Consult official regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14. TRANSPORT INFORMATION

UN-Number DOT, IMDG, IATA UN3288 UN proper shipping name DOT Toxic solid, inorganic, n.o.s. (Sodium chromate, anhydrous) IMDG, IATA TOXIC SOLID, INORGANIC, N.O.S. (Sodium chromate, anhydrous) Transport hazard class(es) DOT Class 6.1 Toxic substances. Label 6.1 Class 6.1 (T5) Toxic substances Label 6.1 IMDG, IATA Class 6.1 Toxic substances. Label 6.1 Packing group DOT, IMDG, IATA Ш Environmental hazards: Environmentally hazardous substance, solid Special precautions for user Warning: Toxic substances EMS Number: F-A,S-A Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A Transport/Additional information: DOT Marine Pollutant (DOT):

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS GHS label elements, including precautionary statements Hazard pictograms GHS05 GHS06 GHS08 Signal word Danger Hazard statements H301 Toxic if swallowed. H312 Harmful in contact with skin. H330 Fatal if inhaled. H314 Causes severe skin burns and eye damage. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 May cause an allergic skin reaction. H340 May cause genetic defects. H350 May cause cancer. H360 May damage fertility or the unborn child. H372 Causes damage to the central nervous system, the lung and the blood through prolonged or repeated exposure. Route of exposure: Inhalative. Precautionary statements P260 Do not breathe dust/fume/gas/mist/vapors/spray. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P320 Specific treatment is urgent (see on this label). P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL). SARA Section 313 (specific toxic chemical listings) 7775-11-3 Sodium chromate California Proposition 65 Prop 65 - Chemicals known to cause cancer 7775-11-3 Sodium chromate Prop 65 - Developmental toxicity Substance is not listed. Prop 65 - Developmental toxicity, female 7775-11-3 Sodium chromate Prop 65 - Developmental toxicity, male

7775-11-3 Sodium chromate

Information about limitation of use:

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

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. This substance is included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH).

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 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.