

Safety Data Sheet per OSHA HazCom 2012

1 Identification Product identifier Product name: Sodium chlorodifluoroacetate Stock number: A15756, L04400 CAS Number: 1895-39-2 EC number: **'-586-**0 Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development Details of the supplier of the safety data sheet Manufacturer/Supplier: Alfa Aesar Thermo Fisher Scientific Chemicals, Inc. Inerrito Fisher Scheman C. 30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757 Email: tech @alfa.com www.alfa.com Information Department: Health, Safety and Environmental Department Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789. 2 Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS) ! GHS07 Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2A H319 Causes serious eye irritation. STOT SE 3 H335 May cause respiratory irritation. 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 GHS07 Signal word Warning Hazard statements H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. Precautionary statements P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. P405 WHMIS classification D2B - Toxic material causing other toxic effects Ţ Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 1Flammàbility = 1 TIVITY 1 Physical Hazard = 1 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable 3 Composition/information on ingredients Chemical characterization: Substances CAS# Description: 1895-39-2 Sodium chlorodifluoroacetate Identification number(s): EC number: 217-586-0 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. (Contd. on page 2) Product name: Sodium chlorodifluoroacetate

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## 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 No further relevant information available. Indication of any immediate medical attention and special freatment needed No further relevant information available. 5 Fire-fighting measures Extinguishing media Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Hydrogen fluoride (HF) Sordium avide Sodium oxide Hydrogen chloride (HCI) Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit. 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: 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. 7 Handling and storage Handling Precautions for safe handling 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: No information known. 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 oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available. 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 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 eves and skin Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. **Breathing equipment:** Use suitable respirator when high concentrations are present. **Breathing equipment:** Use suitable respirator when high concentrations are present. **Recommended filter device for short term use:** Use a respirator with type N95 (USA) or PE (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:** Imperving respirators Protection of nands: 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 Eye protection: Safety glasses Party restortion: Protective work clothing Body protection: Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: Form: Powder Odor: Not determined Odor threshold: Not determined pH-value: Not applicable.

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## Product name: Sodium chlorodifluoroacetate

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		(Contd. of page 2)
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto igniting:	ca 195 °C (ca 383 °F) (dec) Not determined Not determined Not determined Not determined Not determined Not determined Not determined	
Danger of explosion: Explosion limits: Lower: Upper:	Not determined. Not determined Not determined Not applicable.	
Density: Relative density Vapor density Evaporation rate Solubility in / Miscibility with	Not determined Not determined Not applicable. Not applicable. Not determined	
Partition coefficient (n-octanol/water): Viscosity: dynamic: kinematic: Other information	Not determined. Not applicable. Not applicable. No further relevant information available.	
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: Oxidizing agents Hazardous decomposition products: Carbon monoxide and carbon dioxide Hydrogen fluoride Sodium oxide Hydrogen chloride (HCI)		
<ul> <li>11 Toxicological information         Information on toxicological effects         Acute toxicity: No effects known.         LD/LC50 values that are relevant for classification: No data         Skin irritation or corrosion: Causes skin irritation.         Eye irritation or corrosion: Causes serious eye irritation.         Sensitization: No sensitizing effects known.         Germ cell mutagenicity: No effects known.         Carcinogenicity: No effects known.         Germ cell mutagenicity: No effects known.         Specific target organ system toxicity - repeated exposure: No effects known.         Specific target organ system toxicity - single exposure: May cause respiratory irritation.         Aspiration hazard: No effects known.         Subacute to chronic toxicity: No effects known.         Subacute to chronic toxicity: 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.         Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.         Subacute toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.         Subacute toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.         Subacute toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.         Subacute toxicity is possible acute and chronic toxicity of this substance is not fully known.         Subacute toxicity is possible acute and chronic toxicity of this substance is not fully known.</li></ul>		
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 system. 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.		
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.		
14 Transport information UN-Number DOT, ADN, IMDG, IATA	Not applicable	
UN proper shipping name DOT, ADN, IMDG, IATA	Not applicable	
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not applicable	
		(Contd. on page 4) USA

Product name: Sodium chlorodifluoroacetat	te
	(Contd. of page 3)
Packing group DOT, IMDG, IATA	Not applicable
Environmental hazards:	Not applicable.
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MAR	POL73/78 and the IBC Code Not applicable.
Transport/Additional information:	
DOT	
Marine Pollutant (DOT):	No
UN "Model Regulation":	-
15 Regulatory information	
	gislation specific for the substance or mixture labeled in accordance with 29 CFR 1910 (OSHA HCS)
GHS07	
P305+P351+P338 IF IN EYES: Rinse cautiously w P304+P340 IF INHALED: Remove person to P405 Store locked up. P501 Dispose of contents/container in National regulations All components of this product are listed in the U.S All components of this product are listed on the Ca. SARA Section 313 (specific toxic chemical listin California Proposition 65 Prop 65 - Chemicals known to cause cancer Sul Prop 65 - Developmental toxicity Substance is no Prop 65 - Developmental toxicity, female Substan Prop 65 - Developmental toxicity, male Substance Information about limitation of use: For use only Other regulations. limitations and prohibitive re	ve clothing/eye protection/face protection. vith water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. o fresh air and keep comfortable for breathing. n accordance with local/regional/national/international regulations. S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. nadian Non-Domestic Substances List (NDSL). <b>ngs)</b> Substance is not listed. vol listed. ance is not listed. ce is not listed. ce is not listed. y by technically qualified individuals. egulations ding to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. ice 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the
conformance with this Material Safety Data Sheet,	upplement to other information gathered by them, and should make independent judgement of suitability of this ealth and safety of employees. This information is furnished without warranty, and any use of the product not in or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing Depa Date of preparation / last revision 11/23/2015 / - Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereu DOT: US Department of Transport des marchandises dangereu DOT: US Department of Transport des marchandises dangereu CAS: Chemical Abstracts Service (division of the American Chemical HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Cane LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent CACGIH: American Conference of Governmental Industrial Hygienist OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)	

USA -