

Safety Data Sheet per OSHA HazCom 2012

1 Identification

Product identifier Product name: 2,3-Dibromopropionamide Stock number: L10978 CAS Number: 15102-42-8 EC number: 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: 15102-42-8 2,3-Dibromopropionamide Identification number(s): EC number: 239-153-5 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: 2,3-Dibromopropionamide

(Contd. of page 1) 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 Nitrogen oxides (NOx) Hurdrogen brownide (NPr) Hydrogen bromide (HBr) Hydrogen cyanide (HCN) 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 material to be released to the environment without proper governmental permits. 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: Not required. 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 and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. 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. Penetration time of glove material (in minutes) Not determined Eye protection: Safety glasses Body protection: Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: Form: Solid Color: White Odor: Odor threshold: Not determined Not determined. pH-value: Not applicable. 132-133 °C (270-271 °F)

Change in condition Melting point/Melting range: Boiling point/Boiling range: Not determined Sublimation temperature / start: Not determined

(Contd. on page 3)

## Product name: 2,3-Dibromopropionamide

Product name: 2,3-Dibromopropiona	amide	
		(Contd. of page 2)
Flash point: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto igniting:	Not applicable Not determined. Not determined Not determined Not determined.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits: Lower:	Not determined	
Upper: Vapor pressure:	Not determined Not applicable.	
Density:	Not determined	
Relative density Vapor density	Not determined. Not applicable.	
Evaporation rate Solubility in / Miscibility with	Not applicable.	
Water:	Insoluble	
Partition coefficient (n-octanol/water): Viscosity:		
dynamic: kinematic:	Not applicable. Not applicable.	
Other information	No further relevant information available.	
10 Stability and reactivity Reactivity No information known. Chemical stability Stable under recommo Thermal decomposition / conditions to Possibility of hazardous reactions No	nended storage conditions. <b>o be avoided:</b> Decomposition will not occur if used and stored according to specifications. dencerus reactions known	
Conditions to avoid No further relevant Incompatible materials: Oxidizing ager Hazardous decomposition products: Carbon monoxide and carbon dioxide Nitrogen oxides	t information available.	
Hydrŏgen bromide Hydrogen cyanide		
Reproductive toxicity: No effects know Specific target organ system toxicity - Specific target organ system toxicity - Aspiration hazard: No effects known.	in irritation. fous eye irritation. own. on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. n. - <b>repeated exposure:</b> No effects known. - <b>single exposure:</b> May cause respiratory irritation.	
Subacute to chronic toxicity: No effect Additional toxicological information:	ts known. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	
12 Ecological information Toxicity Aquatic toxicity: No further relevant infor Persistence and degradability No furthe Bioaccumulative potential No further re Mobility in soil No further relevant inforn Additional ecological information: General notes: Do not allow material to be released to th Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further releva	er relevant information available. elevant information available. mation available. he environment without proper governmental permits. t	
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13 Disposal considerations Waste treatment methods Recommendation Consult state, local o Uncleaned packagings: Recommendation: Disposal must be ma	or national regulations to ensure proper disposal. ade according to official regulations.	
<b>14 Transport information</b> Not a hazardous material for transportati	ion.	
UN-Number DOT, IMDG, IATA	None	
UN proper shipping name DOT, IMDG, IATA	None	
Transport hazard class(es) DOT, ADR, IMDG, IATA Class	None	
Packing group DOT, IMDG, IATA	None	
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Product name: 2,3-Dibromopropionamide	
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Environmental hazards:	Not applicable.
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL7	73/78 and the IBC Code Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
DOT Marine Pollutant (DOT):	No
15 Regulatory information   Safety, health and environmental regulations/legislat   GHS label elements   The product is classified and labele   Hazard pictograms   GHS07   Signal word Warning   Hazard statements   H315 Causes skin irritation.   H335 May cause respiratory irritation.   H335 May cause respiratory irritation.   Precautionary statements   P261 Avoid breathing dust/fume/gas/mist/v   P280 Wear protective gloves/protective clop	led in accordance with 29 CFR 1910 (OSHA HCS)
P305+P351+P338 IF IN EYES: Rinše cautiously with we P304+P340 IF INHALED: Remove person to frest P405 Store locked up. P501 Dispose of contents/container in acco National regulations This product is not listed in the U.S. Environmental Prote to research and development only. This product must be product must not be used for commercial purposes or in SARA Section 313 (specific toxic chemical listings) S California Proposition 65 Prop 65 - Chemicals known to cause cancer Substan Prop 65 - Developmental toxicity, female Substance is Prop 65 - Developmental toxicity, male Substance is Information about limitation of use: For use only by te Other regulations. limitations and prohibitive regulation	ater for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. th air and keep comfortable for breathing. ordance with local/regional/national/international regulations. rection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restrict e used by or directly under the supervision of a technically qualified individual as defined by TSCA. This formulations for commercial purposes. Substance is not listed. red. is not listed. red. echnically qualified individuals. tions to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed. to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed. to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed. to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed. To the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
6 Other information Employers should use this information only as a suppler information to ensure proper use and protect the health conformance with this Material Safety Data Sheet, or in o	ment to other information gathered by them, and should make independent judgement of suitability of this and safety of employees. This information is furnished without warranty, and any use of the product not in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing Departmer Date of preparation / last revision 1/24/2015 / - Abbreviations and acronyms: RID: Reglement international concernant le transport des marchandises de IATA-DGR: Dangerous Goods Regulations by the "International Air Transp ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization IATA: International Maritime Code for Dangerous Goods DOT: US Department of Transportation HATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substance CAS: Chemical Abstracts Service (division of the American Chemical Societ HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal concentration, 50 percent VPUS: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (USA OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)	langereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) port Association" (IATA) zation" (ICAO) as jety)