

1 Identification Product identifier Product name: 2-Phenoxyethyl bromide Stock number: B21087, L01749 **CAS Number:** 589-10-6 EC number: 209-634-4 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) = 1Flammability = 2 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: 589-10-6 2-Phenoxyethyl bromide Identification number(s): EC number: 209-634-4 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.

Product name: 2-Phenoxyethyl bromide

(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 Hydrogen bromide (HBr) Advice for firefireture 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: Keep away from ignition sources. Reference to other sections Concernent and cleaning up: Ensure adequate ventilation. 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 Recautions for sale nanoling 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: Keep ignition sources away. 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 Automati 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 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. Eye protection: Safety glasses Body protection: Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: Crystalline Color: Yéllow Not determined Odor: Odor threshold: Not determined. pH-value: Not applicable. Change in condition Melting point/Melting range: Boiling point/Boiling range: 32-34 °C (90-93 °F) 135-137 °C (275-279 °F) (20mm Hg) Sublimation temperature / start: Not determined 65 °C (149 °F) Flash point: Flammability (solid, gaseous) Ignition temperature: Not determinéd Not determined

Product name: 2-Phenoxyethyl bromide

Product name: 2-Phenoxyethyl bro		() ()
Decomposition temperature:	Not determined	ontd. of page 2)
Auto igniting:	Not determined.	
Danger of explosion: Explosion limits:	Product does not present an explosion hazard.	
Lower: Upper:	Not determined Not determined	
Vapor pressure:	Not applicable.	
Density at 20 °C (68 °F): Relative density	1.35 g/cm³ (11.266 lbs/gal) Not determined.	
Vapor density	Not applicable.	
Evaporation rate Solubility in / Miscibility with	Not applicable.	
Water:	Insoluble	
Partition coefficient (n-octanol/water) Viscosity:): Not determined.	
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 recom	nmended storage conditions. t o be avoided: Decomposition will not occur if used and stored according to specifications.	
Possibility of hazardous reactions N	lo dangerous reactions known	
Conditions to avoid No further relevan Incompatible materials: Oxidizing age	nt information available. ents	
Hazardous decomposition products:		
Carbon monoxide and carbon dioxide Hydrogen bromide		
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 s	skin irritation.	
Eye irritation or corrosion: Causes se Sensitization: No sensitizing effects kr	nown.	
Germ cell mutagenicity: No effects kn	nown.	
Reproductive toxicity: No effects know	a on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. wn.	
Specific target organ system toxicity	/ - repeated exposure: No effects known. / - single exposure: May cause respiratory irritation.	
Aspiration hazard: No effects known.		
Subacute to chronic toxicity: No effective Additional toxicological information:	cts 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 in	Iformation available.	
Persistence and degradability No fun Bioaccumulative potential No further	relevant information available	
Mobility in soil No further relevant info	ormation available.	
Additional ecological information: General notes:		
Do not allow material to be released to Avoid transfer into the environment.	the environment without proper governmental permits.	
Results of PBT and vPvB assessmer	nt	
PBT: Not applicable. vPvB: Not applicable.		
Other adverse effects No further relev	rant information available.	
13 Disposal considerations		
Waste treatment methods	or national regulations to ensure proper disposal.	
Uncleaned packagings:		
Recommendation: Disposal must be n		
14 Transport information Not a hazardous material for transporta	ation	
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	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
	x II of MARPOL73/78 and the IBC Code Not applicable.	
Transport/Additional information:	Not dangerous according to the above specifications.	and a second second
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DOT Marine Pollutant (DOT):	No
5 Regulatory information Safety, health and environmental regulatior GHS label elements The product is classified Hazard pictograms	ns/legislation specific for the substance or mixture and labeled in accordance with 29 CFR 1910 (OSHA HCS)
P304+P340 IF INFIALED: Remove pers P405 Store locked up. P501 Dispose of contents/contair National regulations All components of this product are listed in the All components of this product are listed on the SARA Section 313 (specific toxic chemical 1) California Proposition 65 Prop 65 - Developmental toxicity, Substance Prop 65 - Developmental toxicity, male Sub- Information about limitation of use: For use Other regulations, limitations and prohibitiv Substance of Very High Concern (SVHC) ac The conditions of restrictions according to market and use must be observed.	fective clothing/eye protection/face protection. Ily with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. on to fresh air and keep comfortable for breathing. There in accordance with local/regional/national/international regulations. U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. Canadian Non-Domestic Substances List (NDSL). Istings) Substance is not listed. Is not listed. Istance is not listed.
Chemical safety assessment: A Chemical Safety 6 Other information Employers should use this information only as information to ensure proper use and protect th	afety Assessment has not been carried out. a supplement to other information gathered by them, and should make independent judgement of suitability of this he health and safety of employees. This information is furnished without warranty, and any use of the product not ir eet, or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing I Date of preparation / last revision 11/23/201 Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transport Association ENECS: European Inventory of Existing Commercial Chemica CAS: Chemical Abstracts Service (division of the American CI HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System LD50: Lethal dose, 50 percent LD50: Lethal dose, 50 percent LD50: Lethal dose, 50 percent CASI: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hyp OSHA: Occupational Safety and Health Administration (USA) MTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)	Department