

Safety Data Sheet per OSHA HazCom 2012

1 Identification Product identifier Product name: 4-(n-Butoxy)phenylacetic acid Stock number: L08231 CAS Number: 4547-57-3 EC number: 224-904-1 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 Acute Tox. 4 H302 Harmful if swallowed. 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 H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. Precautionary statements 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. P405 Store locked up. P50' Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification D1B - Toxic material causing immediate and serious toxic effects D2B - Toxic material causing other toxic effects Т Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) 1 Health (acute effects) = 11 RE I Flammàbility = 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: 4547-57-3 4-(n-Butoxy)phenylacetic acid Identification number(s): EC number: 224-904-1 4 First-aid measures Description of first aid measures After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm.

(Contd. on page 2)

## Product name: 4-(n-Butoxy)phenylacetic acid

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-100	auct name: 4-(1-Butoxy)prienylacelic acid	
	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 No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available.	(Contd. of page 1)
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 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: 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.	
	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. 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 end hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all solied 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. 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. Pertection: Safety glasses Body protection: Protective work clothing.	
	Physical and chemical properties         Information on basic physical and chemical properties         General Information         Appearance:         Form:       Crystalline         Color:       White         Odor:       Not determined         Not determined         Not determined	
	pH-value:     Not applicable.       Change in condition     Kelting point/Melting range:     87-89 °C (189-192 °F)	(Contd. on page 3) USA

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		(Contd. of page 2	
Boiling point/Boiling range: Sublimation temperature / start:	Not determined	(	
	Not determined Not applicable		
Flash point: Flammability (solid, gaseous)	Not determined.		
Ignition temperature: Decomposition temperature:	Not determined Not determined		
Auto igniting:	Not determined.		
Danger of explosion:	Product does not present an explosion hazard.		
Explosion limits: Lower:	Not determined		
Upper:	Not determined		
Vapor pressure: Density:	Not applicable. Not determined		
Relative density	Not determined.		
Vapor density Evaporation rate	Not applicable. Not applicable.		
Solubility in / Miscibility with			
Water: Partition coefficient (n-octanol/water	Insoluble ): Not determined		
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 recom Thermal decomposition / conditions	nmended storage conditions. <b>to be avoided:</b> Decomposition will not occur if used and stored according to specifications.		
Possibility of hazardous reactions N Conditions to avoid No further relevan	o dangerous reactions known		
Conditions to avoid No further relevant Incompatible materials: Oxidizing age	it information available.		
Hazardous decomposition products:	Carbon monoxide and carbon dioxide		
1 Toxicological information			
11 Toxicological information			
Information on toxicological effects Acute toxicity: Harmful if swallowed.			
LD/LC50 values that are relevant for	classification:		
Oral LD50 2000 mg/kg (mouse)			
Skin irritation or corrosion: Causes s Eye irritation or corrosion: Causes se			
Sensitization: No sensitizing effects kr			
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.			
Aspiration hazard: No effects known.	r - single exposure: May cause respiratory irritation.		
Subacute to chronic toxicity: No effe	cts known.		
Additional toxicological information:	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 information available.			
Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available.			
Mobility in soil No further relevant info Additional ecological information:	rmation available.		
General notes:			
Do not allow material to be released to the environment without proper governmental permits. 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 assessmer	nt		
PBT: Not applicable. vPvB: Not applicable.			
Other adverse effects No further relev	ant information available.		
13 Disposal considerations			
Waste treatment methods			
Recommendation Consult state, local	or national regulations to ensure proper disposal.		
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Uncleaned packagings: Recommendation: Disposal must be r	······································		
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Recommendation: Disposal must be r 4 Transport information Not a hazardous material for transporta UN-Number			
Recommendation: Disposal must be r <b>14 Transport information</b> Not a hazardous material for transporta UN-Number DOT, IMDG, IATA	tion. None		
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Recommendation: Disposal must be r <b>14 Transport information</b> Not a hazardous material for transporta UN-Number DOT, IMDG, IATA UN proper shipping name DOT, IMDG, IATA Transport hazard class(es)	None	(Contd. on page	

## Product name: 4-(n-Butoxy)phenylacetic acid (Contd. of page 3) Packing group DOT, IMDG, IATA None Environmental hazards: Not applicable Special precautions for user Not applicable. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. Transport/Additional information: Not dangerous according to the above specifications. ΠΟΤ Marine Pollutant (DOT): No 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 ! GHS07 Signal word Warning Hazard statements H302 Harmful if swallowed. 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. P405 P501 Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. National regulations. National regulations This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes. 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, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and 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. National regulations 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 Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / - Date of preparation / last revision 11/23/2015 / Abbreviations and acronyms: RID: Reglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IACA) ICAO: International Maritime Code for Dangerous Goods DOT: US Department of Transport Association IATA: International Air Transport Association IENECS: European Inventory of Xisting Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal dose, 50 percent UPV: Way Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IAT: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA) USA