

Safety Data Sheet per OSHA HazCom 2012

1	l Identification Product identifier Product name: <b>N-Boc-D-alpha-phenylglycinol</b>	
	Stock number: H27163 CAS Number: 102089-74-7 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. 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) 928-0 During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.	0789.
2	P. Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS) The substance is not classified according to the Globally Harmonized System (GHS). Hazards not otherwise classified No information known.	
	Label elements GHS label elements Not applicable Hazard pictograms Not applicable Signal word Not applicable Hazard statements Not applicable WHMIS classification Not controlled	
	Hazard statements Not applicable WHMIS classification Not controlled Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System)	
	HEALTH       Image: Arrow of the second	
	Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.	
3	B Composition/information on ingredients Chemical characterization: Substances CAS# Description: 102089-74-7 N-Boc-D-alpha-phenylglycinol	
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. Seek immediate medical advice. <b>After eve contact</b> Rinse opened eve 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.	
5	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) Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.	
6	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: Pick up mechanically.	
	Prevention of secondary hazards: No special measure's required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment.	
		(Contd. on page 2)

## Product name: N-Boc-D-alpha-phenylglycinol

Page 2/4 Printing date 11/24/2015 Reviewed on 04/16/2009

(Contd. of page 1)

See Section 13 for disposal information.

7 Handling Proceedings       Proceedings         9 Handling Proceedings       Proceedings         9 Handling Proceedings       Proceedings         11 Granterion about protection against explosions and mass. No information known.       Environments Proceedings         12 Granterion       Set is stored, information about protection against explosions and mass. No information known.         13 Granterion       Set is stored, information about stored explosions and mass.         14 Granterion       Set is stored, information about stored explosions and the stored according against.         15 Exposure controlls/personal protection         Additional information. Do do disagain of technical stytems: Property controlls (personal protection         7 Handling and information. Do do disagain of technical stytems: Property controlls (personal protection         7 Handling and information. Do do disagain of technical stytems: Property controlls (personal protection         7 Handling and information. Do do disagain of technical stytems: Property controlls (personal protection         7 Handling and protection         8 Exposure controls (personal protection         7 Handling and protection         7 Handling and protection	See Section 13 for disposal information.					
Additional information about design of technical systems: Property operating chemical lumbes that require monitoring at the workplace. Not required. Control parameters Compositions with lumbes that require monitoring at the workplace. Not required. Compositions with lumbes that require monitoring at the workplace. Not required. Exposure controls Personal protective and hygienic measures General protective and hygienic measures Compositions with lumbes that require monitoring at the workplace. Not required. Represent protective and hygienic measures General protective and hygienic measures Compositions with lumbes that require monitoring at the workplace. New york productive and hygienic measures General protective and hygienic measures Compositions with lumbes that require monitoring Compositions with any protective and hygienic measures Compositions with any protective and hygienic measures Compositions with any protective and hygienic measures Compositions with any protective and hygienic measures Representation containmanies of other measures Compositions with any protective and hygienic measures Compositions and hygienic measures Composit	Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. 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.					
Additional information: No data Exposure controls Exposure Exposure controls Exposure Exposur	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					
Information on basic physical and chemical properties         General Information         Appearance:         Form:       Powder         Gotor:       White         Odor:       White         Odor:       White         Odor:       White         Dange in condition       Not determined.         pH-value:       Not determined.         Change in condition       137-141 °C (279-286 °F)         Moti determined.       Not determined.         Sublimation temperature / start:       Not determined.         Flash point?       Not determined.         Flash point?       Not determined.         Auto igniting:       Not determined.         Auto igniting:       Not determined.         Auto igniting:       Not determined.         Upper:       Not determined.         Upper:       Not determined.         Vapor pressure:       Not determined.         Upper:       Not determined.         Vapor pressure:       Not determined.         Vapor censity       Not determined.         Vapor censity       Not determined.         Vapor censity       Not determined.         Vapor censity       Not determined. <t< td=""><td colspan="5">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. 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 Eve protection: Safety glasses</td></t<>	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. 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 Eve protection: Safety glasses					
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pH-value:         Not applicable.           Change in condition Metting point/Melting range:         137-141 °C (279-286 °F) Bolling point/Melting range:         Not determined           Basiliand not temperature / start.         Not determined         Not applicable           Flash point/         Not applicable         Not determined           Flash point:         Not determined         Not applicable           Gecomposition temperature:         Not determined         Not determined           Decomposition temperature:         Not determined         Not determined           Auto igniting:         Not determined         Not determined           Upper:         Not determined         Not determined           Upper:         Not determined         Not determined           Vapor pressure:         Not determined.         Not determined.           Vapor pressure:         Not determined.         Not applicable.           Vapor density         Not determined.         Not applicable.           Solubility in / Miscibility with         Not applicable.         Not applicable.           Viscosity:         Inscibility with Not applicable.         Not applicable.           Viscosity:         Not applicable.         Not applicable.           Viscosity:         Not applicable.         Not applicable.	Information on basic physical and ch General Information Appearance: Form: _ Color:	emical properties Powder White				
Change in condition Melting range:       137-141 °C (279-286 °F) Not determined         Sublimation temperature / start:       Not applicable Not applicable         Flash point:       Not applicable Not determined         Present of explosition temperature / start:       Not applicable Not determined         Decomposition temperature:       Not determined         Decomposition temperature:       Not determined         Danger of explosion:       Product does not present an explosion hazard.         Explosion limits:       Not determined         Upper:       Not determined         Vapor pressure:       Not determined.         Vapor density       Not deplicable.         Vapor density:       Not deplicable.         Vapor density:       Not deplicable.         Vision:       Not deplicable.         Vision:       Not applicable.         Vision:       Not applicable.         Vision:       Not applicable.         Vision:       Not applicable.         Presenty:       Not applicable.         Whematic:       Not a	Odor threshold:	Not determined.				
Meiling point/Weiling range:       137-141 °C (279-286 °F)         Boiling point/Soling range:       Not determined         Sublimation temperature / start:       Not determined         Flash point:       Not determined         Flash point:       Not determined         gmition temperature:       Not determined         Darger of explosion:       Product does not present an explosion hazard.         Ecrossic       Not determined         Darger of explosion:       Product does not present an explosion hazard.         Ecrossic       Not determined         Upper:       Not determined         Upper:       Not determined         Vapor pressure:       Not applicable.         Vapor density       Not determined         Vapor density       <	pH-value:	Not applicable.				
Flammability (solid, gaseous)       Not determined         Ignition temperature:       Not determined         Decomposition temperature:       Not determined         Auto igniting:       Not determined         Danger of explosion:       Product does not present an explosion hazard.         Explosion limits:       Lower:         Lower:       Not determined         Upper:       Not determined         Vapor pressure:       Not determined         Pansity:       Not determined         Relative density       Not determined.         Vapor density       Not determined.         Vapor pressure:       Not applicable.         Evaporation rate       Not applicable.         Solubility in / Miscibility with       Insoluble         Water:       Not applicable.         Solubility in / Miscibility with       Insoluble         Water:       Not applicable.         Attine:       Not applicable.         Viscosity:       Not determined.         dynamic:       Not applicable.         Mitmato:       No tapplicable.         Mitmato:       No tapplicable.         Other information (nown.       Reactivity No information known.         Chemical stability Stable under recommended storag	Melting point/Melting range: Boiling point/Boiling range:	Not determined				
Explosion limits:       Image: Constraint of the constraint of	Flammability (solid, gaseous) Ignition temperature: Decomposition temperature:	Not determined. Not determined Not determined				
Other information         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 No dangerous reactions known         Conditions to avoid No further relevant information available.           Incompatible materials: Oxidizing agents         Hazardous decomposition products:           Carbon monoxide and carbon dioxide         USA	Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density Evaporation rate Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water) Viscosity: dynamic:	Not determined Not applicable. Not determined Not determined. Not applicable. Not applicable. Insoluble : Not determined. Not applicable.				
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 No dangerous reactions known Conditions to avoid No further relevant information available. Incompatible materials: Oxidizing agents Hazardous decomposition products: Carbon monoxide and carbon dioxide Nitrogen oxides						
(Contd. on page 3)						

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	(Contd. of page	
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: May cause irritation Eye irritation or corrosion: May cause irritation Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Carcinogenicity: No classification data on carcinogenic properties of this in Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Subacute to chronic toxicity: No effects known.	known. wn.	
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 material to be released to the environment without proper gov 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.	rernmental permits.	
13 Disposal considerations		
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.		
<b>14 Transport information</b> Not a hazardous material for transportation.		
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.	
Transport in bulk according to Annex II of MARPOL73/78 and the IBC		
Transport/Additional information:	Not dangerous according to the above specifications.	
DOT Marine Pollutant (DOT):	No	
15 Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements Not applicable Hazard pictograms Not applicable Hazard statements Not applicable Hazard statements Not applicable Mational 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, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity, anale Substance is not listed. Prop 65 - Developmental toxicity and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The con		
Chemical safety assessment: A Chemical Safety Assessment has not be	een carried out.	

## Product name: N-Boc-D-alpha-phenylglycinol

Page 4/4 Printing date 11/24/2015 Reviewed on 04/16/2008

(Contd. of page 3)

## 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. 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 11/24/2015 / Abbreviations and acronyms:

ID: Réglement 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 Civil Aviation Organization
ICAO: Ti: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
IMDG: International Civil Aviation of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal dose, 50 percent
VPWs very Persistent and very Bioaccumulative
ACGIH: American Chernental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
IMF: National Toxicology Program (USA)
IATE: International Air and the Administration (USA)
IATE: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)

USA