

1 Identification Product identifier Product name: 1-Bromo-3,5-dimethyladamantane Stock number: H59923 CAS Number: 941-37-7 EC number: 213-378-9 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) The substance is not classified according to the Globally Harmonized System (GHS). Hazards not otherwise classified No information known. I abel elements GHS label elements Not applicable Hazard pictograms Not applicable Signal word Not applicable Hazard statements Not applicable WHMIS classification Not controlled Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 1 Flammability = 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: 941-37-7 1.Bromo-3,5-dimethyladamantane Identification number(s): EC number: 213-378-9 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. 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. 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: Tarbon monoxide and carbon dioxide Hydrogen bromide (HBr) 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 permiss. Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). (Contd. on page 2) USA

Product name: 1-Bromo-3,5-dimethyladamantane

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. 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

Personal protective equipment

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

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: Liquid		
Odor:	Not determined	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto igniting:	109 °C (228 °F) 201 °C (394 °F) Not determined Not determined. Not determined Not determined Not determined.	
Danger of explosion:	Not determined.	
Explosion limits: Lower:	Not determined	
Upper:	Not determined	
Vapor pressure:	Not determined	
Density at 20 °C (68 °F):	1.224 g/cm³ (10.214 lbs/gal)	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Not determined	
Partition coefficient (n-octanol/water)	: Not determined.	
Viscosity:		
dynamic:	Not determined.	
kinematic:	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 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

(Contd. of page 1)

Product name: 1-Bromo-3.5-dimethyladamantane

Page 3/4 Printing date 11/23/2015 Reviewed on 07/30/2012

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Hydrogen bromide	(Contd. of page 2)
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 effects known. Carcinogenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects know. Specific target organ system toxicity - single exposure: 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	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 govern Do not allow undiluted product or large quantities to reach ground water, water 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 prope Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.	er disposal.	
14 Transport information		
UN-Number	Not applicable	
DOT, ADN, IMDG, IATA UN proper shipping name DOT, ADN, IMDG, IATA	Not applicable Not applicable	
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not applicable	
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 MARPOL73/78 and the IBC Co	de Not applicable.	
Transport/Additional information:		
DOT Marine Pollutant (DOT):	No	
UN "Model Regulation":	-	
 15 Regulatory information Safety, health and environmental regulations/legislation specific for the s GHS label elements Not applicable Hazard pictograms Not applicable National regulations This product is not listed in the U.S. Environmental Protection Agency Toxic S to research and development only. This product must be used by or directly un product must not be used for commercial purposes or in formulations for comm This product is not listed on the Canadian Domestic Substances List (DSL) or SARA Section 313 (specific toxic chemical listings) Substance is not listed. Prop 65 - Chemicals known to cause cancer 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, 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. Prop 65 - Developmental toxicity, and Substance is not listed. Prop 65 - Developmental toxicity, and Substance is not listed. Bronduction about limitations and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regula The conditions of restrictions according to Article 67 and Annex XVII of to market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (req	ubstances Control Act Chemical Substance Inventory. Use of this produ nder the supervision of a technically qualified individual as defined by TS nercial purposes. the Canadian Non-Domestic Substances List (NDSL). lividuals. ations (EC) No. 1907/2006. Substance is not listed. the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, p ubstance is not listed.	SCA. This

Product name: 1-Bromo-3,5-dimethyladamantane

(Contd. of page 3)

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. conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the use Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / - Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) DOT: US Department of Transportation ENIECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Information System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal dose, 50 percent USD: 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)

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