



1 Identification Product identifier Product name: 1-Naphthaleneboronic acid Stock number: B21219, L09150 **CAS Number:** 13922-41-3 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 Alla Aesai Thermo Fisher Scientific Chemicals, Inc. 30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757 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

 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 victim to fresh air and keep at rest in a position comfortable for breathing.

 P362
 Take off contaminated clothing and wash before reuse.

 P321
 Specific treatment (see on this label).

 P332+P313
 If skin irritation occurs: Get medical advice/attention.

 P405 Store locked up. P403+P233 Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification D2B - Toxic material causing other toxic effects Т Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) 1 Health (acute effects) = 1 Flammability = 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: 13922-41-3 1-Naphthaleneboronic acid 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)

Safety Data Sheet acc. to OSHA HCS

Product name: 1-Naphthaleneboronic acid

| · | | (a) (a) |
|---|---|---------------------------|
| After swallowing Seek medical treatme Information for doctor Most important symptoms and effects Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. | | (Contd. of page 1) |
| 5 Fire-fighting measures Extinguishing media Suitable extinguishing agents Carbon Special hazards arising from the subs If this product is involved in a fire, the fol Carbon monoxide and carbon dioxide Boron oxide Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit. | n dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. stance or mixture llowing can be released: | |
| 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 product to reach sewage system or any water course. 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. | | |
| Specific end users into finate relevant information available. 8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical turne 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 General protective and 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 at the end of work. Avoid contact with the eyes and at the one of work. Remove all solied and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes not skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Recommended filter device for short term use: Use a respirators are appropriate. Only use equipment tested and approved under appropriate government should be performed to determine if air- purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. Protection of hands: Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable followes not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Eye protection: Safety glasses Body protection: Safety g | | |
| 9 Physical and chemical properties | | |
| Information on basic physical and che General Information Appearance: Form: | emical properties Crystalline powder | |
| Odor: Odor threshold: | Not determined Not determined | |
| pH-value: | Not applicable. | |
| Change in condition Melting point/Melting range: | 204-210 °C (399-410 °F) | |
| | | (Contd. on page 3) USA |

Product name: 1-Naphthaleneboronic acid

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| Product name: 1-Naphthaleneboron | nic acid | | |
| | | (Contd. of page 2) | |
| Boiling point/Boiling range: | Not determined | _ | |
| Sublimation temperature / start: Flammability (solid, gaseous) | Not determined Not determined. | | |
| Ignition temperature: Decomposition temperature: | Not determined | | |
| Decomposition temperature: Auto igniting: | Not determined Not determined. | | |
| Danger of explosion: | Not determined. | | |
| Explosion limits: | | | |
| Lower: Upper: | Not determined Not determined | | |
| Vabór 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. | | |
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| 10 Stability and reactivity | | | |
| Reactivity No information known. Chemical stability Stable under recom | imended storage conditions | | |
| Thermal decomposition / conditions | mended storage conditions. to be avoided: Decomposition will not occur if used and stored according to specifications. | | |
| Possibility of hazardous reactions Re Conditions to avoid No further relevant | eacts with strong oxidizing agents | | |
| Incompatible materials: Oxidizing age | nts | | |
| Hazardous decomposition products: Carbon monoxide and carbon dioxide | | | |
| Boron oxide | | | |
| 11 Toxicological information | | | |
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| Information on toxicological effects Acute toxicity: No effects known. | | | |
| LD/LC50 valúes that are relevant for o Skin irritation or corrosion: Causes si | | | |
| Eve irritation or corrosion: Causes se | erious eve irritation. | | |
| Sensitization: No sensitizing effects kn Germ cell mutagenicity: No effects kn | iown. | | |
| Carcinogenicity: EPA-I: Data are inadequate for an assessment of human carcinogenic potential. | | | |
| Reproductive toxicity: No effects know | NN. | | |
| Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. | | | |
| Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. | | | |
| Additional toxicological information: | Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. | | |
| Carcinogenic categories | | | |
| OSHA-Ca (Occupational Safety & rea | alth Administration) Substance is not listed. | | |
| 12 Ecological information | | | |
| Toxicity | "., | | |
| Aquatić toxicity: No further relevant in Persistence and degradability No furt | her relevant information available. | | |
| Bioaccumulative potential No further Mobility in soil No further relevant info | relevant information available. | | |
| Mobility in soil No further relevant info Additional ecological information: | rmation available. | | |
| General notes: Avoid transfer into the e Results of PBT and vPvB assessmen | environment. | | |
| PBT: Not applicable. | it . | | |
| vPvB: Not applicable. | and the formation of any state for the formation of the f | | |
| Other adverse effects No further releva | ant information available. | | |
| 13 Disposal considerations | | | |
| Waste treatment methods | · · · · · · · · · · · · · · · · · · · | | |
| Recommendation Consult state, local Uncleaned packagings: | or national regulations to ensure proper disposal. | | |
| Recommendation: Disposal must be m | nade according to official regulations. | | |
| 14 Transport information | | | |
| UN-Number | | | |
| DOT, ADN, IMDG, IATA | Not applicable | | |
| UN proper shipping name DOT, ADN, IMDG, IATA | | | |
| | Not applicable | | |
| Transport hazard class(es) | | | |
| DOT, ADR, ADN, IMDG, IATA Class | Not applicable | | |
| Packing group | ινοι αμμισαλίσ | | |
| DOT, IMDG, IATA | Not applicable | | |
| Environmental hazards: | Not applicable. | | |
| Special precautions for user | Not applicable. | | |
| | | (Contd. on page 4) | |

(Contd. on page 4)

| Product name: 1-Naphthaleneboro | nic acid |
|---|---|
| | (Contd. of page 3) |
| Transport in bulk according to Anne | ex II of MARPOL73/78 and the IBC Code Not applicable. |
| Transport/Additional information: | |
| DOT Marine Pollutant (DOT): | No |
| UN "Model Regulation": | - |
| 45 Desculatory information | |
| 15 Regulatory information Safety, health and environmental re GHS label elements The product is cl Hazard pictograms | gulations/legislation specific for the substance or mixture assified and labeled in accordance with 29 CFR 1910 (OSHA HCS) |
| GHS07 | |
| P280 Wear protective glo P305+P351+P338 IF IN EYES: Rinse P304+P340 IF INHALED: Remc P362 Take off contaminal P361 Specific treatment (P322+P313 If skin irritation occl P405 Store locked up. P403+P233 Store locked up. P403+P233 Store locked up. P403+P233 Store in a well-vent P501 Dispose of contents National regulations This product is not listed in the U.S. Er to research and development only. Thi product must not be used for commerc This product is not listed on the Canad SARA Section 313 (specific toxic ch California Proposition 65 Prop 65 - Developmental toxicity, su Prop 65 - Developmental toxicity, mainformation about limitation of use: Other regulations, limitations and pi Substance of Very High Concern (S) The conditions of restrictions accord market and use must be observed. | Irs: Get medical advice/attention. ilated place. Keep container tightly closed. s/container in accordance with local/regional/national/international regulations. hvironmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted is product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This ial purposes or in formulations for commercial purposes. ian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL). emical listings) Substance is not listed. bstance is not listed. male Substance is not listed. For use only by technically qualified individuals. |
| information to ensure proper use and p | only as a supplement to other information gathered by them, and should make independent judgement of suitability of this protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in Data Sheet, or in combination with any other product or process, is the responsibility of the user. |
| Department issuing SDS: Global Mail Date of preparation / last revision 05 Abbreviations and acronyms: ADR: Accord européen sur le transport des marcha DOT: US Department of Transportation CAS: Chemical Abstracts Service (division of the AI HMIS: Hazardous Materials Identification System (U WHMIS: Workplace Hazardous Materials Informatic LCS0: Lethal concentration, 50 percent LDS0: Lethal dose, 50 percent UPVB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Ino OSHA: Occupational Safety and Health Administrat NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cance EPA: Environmental Protection Agency (USA) Skin Intt: 2: Skin corrosion/irritation, Hazard Catego Eye Inti: 2: Serious eye damage/eye irritation, Ha STOT SE 3: Specific target organ toxicity - Single e | rketing Department //02/2016 / - undises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) merican Chemical Society) JSA) JSA) ustrial Hygienists (USA) tion (USA) r r my 2 zard Category 2A xposure, Hazard Category 3 |

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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