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Version
1 Identification
Product identifier Product name: Tetrabromophenol Blue
Stock number: B20123, L14380 CAS Number:
4430-25-5 <b>EC number:</b> 224-622-9
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. 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 as hazardous according to 29 CFR 1910 (OSHA 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 Classification system
HMIS ratings (scale 0-4) (Hazardous Materials Identification System)
HEALTH       1       Health (acute effects) = 1         FIRE       0       Flammability = 1         REACTIVITY       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: 4430-25-5 Tetrabromophenol Blue
Concentration: ≤100% Identification number(s): EC number: 224-622-9
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 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 Sulfur oxides (SOx) Hydrogen bromide (HBr)
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.
(Contd. on page USA

## Product name: Tetrabromophenol Blue

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See Sector 17 for Information on safe facility Description of Description of Laborate Facility Proceedings of Description of Description of Description Proceedings of Description of Description of Description Proceedings of Description of Description of Description Proceedings for Sector 17 (Sector Description of D	Prevention of secondary hazards: No	llow product to reach sewage system or any water course. <b>nt and cleaning up:</b> Pick up mechanically.
PAC: 5: Substance is not listed         PAC: 5: Substance is not listed <th>See Section 7 for information on safe has See Section 8 for information on person See Section 13 for disposal information. <b>Protective Action Criteria for Chemic</b></th> <th>andling al protection equipment. cals</th>	See Section 7 for information on safe has See Section 8 for information on person See Section 13 for disposal information. <b>Protective Action Criteria for Chemic</b>	andling al protection equipment. cals
Handling Precautions for safe handling Steps containing typics safe handling Precautions for safe storage, including any incompatibilities Steps containing typics safe storage, including any incompatibilities Steps in scale, safe storage, including steps and storage storage face velocity of at least 100 feet per minute. Control parameters Control	<b>PAC-1:</b> Substance is not listed. <b>PAC-2:</b> Substance is not listed.	
Silver in cool, sty julice in highly closed containers. Information about procession any incompatibilities Sending for sale storage, including any incompatibilities Requirements to be met by storerooms and ceneptaches. No special requirements. Information about storage in one common surger faulty: Store away from condizing agents. Information about storage in one common surger faulty: Store away from condizing agents. Information about storage in one common surger faulty: Store away from condizing agents. Information about storage in one common surger faulty: Store away from condizing agents. Information about storage in one common surger faulty: Store away from condizing agents. Information about storage in content information available. <b>32</b> Exposure controls/personal protection Additional information should begin of technical systems: Property depending chemical kine float song for faultations chemicals and having an average face velocity of at least 100 feet per minute. Control parameters Property depending chemical kines for materials with critical values that have to be monitored at the workplace. <b>Additional information:</b> Not all <b>Exposure controls</b> <b>Brouch dependential kines for materials with critical values that have to be monitored at the workplace. <b>Additional information:</b> Not all <b>Exposure controls</b> <b>Properties of control may relevant dynamicals should be followed.</b> <b>The sust precautionary measures for familing emicanest:</b> <b>The sust precautionary measures for familing emicanest:</b> <b>Use sust precautionary measures for familing emicanest:</b> <b>The sust precautionary measures</b></b>	Handling Precautions for safe handling	
Storage Requirements to an advancement Requirements Requi	Store in cool, dry place in tightly closed Information about protection against	t explosions and fires: No information known.
Specific and use(s) No Turther relevant information available.           8 Exposure controls/personal protection Additional information about design of technical systems: Property operating semical turne hood designed for factarobus chemicals and having an average face velocity of at least 100 feet per minute.           Componentieth mit 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 The usual proceationary measures for handing chemicals should be followed. Keep away from foodstifts, beverages and feed Remove all solied and contaminated cluthing immediately. Menitable an exponential way propriets working environment. Breating equipment: Use a subject of content relevant and analy. Near a subject of the high concentrations are present. Use a respirator with type NDS (USA) of PE (UF 143) carthologes as a backup to engineering controls. Fisk assessment should be performed to determine if air- putrying respirators with proper condition. Recommended filter device for short term use: Use a respirator with type NDS (USA) of PE (UF 143) carthologes as a backup to engineering controls. Fisk assessment should be performed to determine if air- putrying respirators with present.           9 Physical and chemical properties         Indential prove the indication. Recommended filter device for short term use: Use a respirator with type NDS (USA) of PE (UF 143) carthologes as a backup to engineering controls. Fisk assessment should be performed to determine if air- putrying respirators with back backup the section. Recommended filter device to short term use: Use a respirator with type NDS (USA) of PE (USA) of EN (168) (EU) Body protection: Protecitive work clothing.           9 Phys	Storage Requirements to be met by storeroom Information about storage in one con Further information about storage co Keep container tightly sealed	ms and receptacles: No special requirements. nmon storage facility: Store away from oxidizing agents. onditions:
Additional information about design of technical systems: Property operating chemical hume hood designed for fizardous 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. Property operating chemical fragment General protective and hygninc measures The issuel precautionary measures for handling chemicals should be followed. Keep weak inductive and hygninc measures The issuel precautionary measures for handling chemicals should be followed. Keep weak inductive and hygning demoting mediately. Wash hands before breaks and at the end of work. Wash hands before breaks and at the end of work. Wash hands before breaks and at the end of work. Wash hands before breaks and at the end of work. Wash hands before breaks and at the end of work. Recommended filter device for should regressent. Use suitable registratory protective device in case of insufficient ventilation. Recommended filter device for should regressent the state and approved under appropriate workplace. Protection of hands: Impervise gives The substitution of the proper condition. The selection of statebile gives not only deepends by the properties workplace. Protection of hands: Impervise gives The substitution of the proper condition. The selection of statebile gives not only deepends on the material, but also on guality. Quality will vary from manufacturer to manufacturer. Eve protection: Stely glasses with side shelleds / NIOSH (US) or EN 166(EU) Body protection: Protective work claiming Ph-value: Not determined Design approximate and the material, bu	Specific end use(s) No further relevant	t information available.
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 General protective and hygionic measures The usual precationary measures for handling chemicals should be followed. Keep away from hodstuffs, beverages and field. Wash hands before breaks and at the end of work. Maintain an ergonomically appropriate working environment. Use sumable respirator with high concentrations are present. Use sumable respirator with high concentrations are present. Use sumable respirator with high concentrations are present. Use an espirator with type N95 (USA) or FE (EN 143) carridges as a backup to engineering controls. Risk assessment should be performed to determine if air- purfying respirators with type N95 (USA) or FE (EN 143) carridges as a backup to engineering controls. Risk assessment should be performed to determine if air- purfying respirators with type N95 (USA) or FE (EN 143) carridges as a backup to engineering controls. Risk assessment should be performed to determine if air- purfying respirators are appropriate. Only use equipment tiesed and appropriate government standards. Impervious gloves: Information of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Bedy 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. Bedy protective gloves prior to each use for their proper to condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Bedy protective gloves prior to each use for their mode doff. Appearance: Motion prometicity for each use of SUMENT (SUMENT (SUMENT (SUMENT (SUMENT (SUMENT (	Additional information about design of Properly operating chemical fume hood	of technical systems:
Personal protective equipment General protective and hygienic measures The issue precautionary measures for handling immediately. Remove all solied and contaminated column Remove all solied and contaminated column Maintain an ergonomically appropriate working environment. Use suitable respiratory protective drive in case of insufficient ventilation. Recommended filter device for short ferm use: Use a respiratory protective drive in case of insufficient ventilation. Recommended filter device for short ferm use: Use a respiratory protective device for short ferm use: Protection of hands: Protection of hands: Protection of hands: Protection of hands: Protection of suitable gives not only depends on the material, but also an quality. Quality will vary from manufacturer to manufacturer. Body protection: Protective device short ferm use: Protection of suitable gives not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Body protection: Protective device short ferm proper condition. The selection of suitable gives not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Body protection: Protective work clothing. 9 Physical and chemical properties General Information on basic physical and chemical properties General Information Code: Provide: Not determined. 0 dort threshold: Matting and chemical properties Change in condition Matting point/Matting ange: Not determined. Data pplicable. Change in condition the performed to determined. Data pplicable. Change in condition the performed to determined. Data pplicable. Change in condition the performation to the determined. Data pplicable. Change in condition the performed to determi	Components with limit values that red The product does not contain any releva	<i>quire monitoring at the workplace:</i> ant quantities of materials with critical values that have to be monitored at the workplace.
Information on basic physical and chemical properties General Information         Appearance: Form:       Powder         Odor:       Not determined         Odor:       Not determined         Odor:       Not determined         Odor:       Not determined         PH-value:       Not applicable.         Change in condition       Metting point/Metting range:         Boiling point/Boiling range:       203-205 °C (397-401 °F) (dec)         Boiling point/Boiling range:       Not determined         Sublimation temperature / start:       Not determined         Ignition temperature:       Not determined         Ignition temperature:       Not determined         Becomposition temperature:       Not determined         Danger of explosion:       Not determined.         Lower:       Not determined.         Lower:       Not determined.         Vapor pressure:       Not determined.         Density:       Not determined.         Vapor pressure:       Not determined.         Vapor density       Not determined.         Vapor density       Not determined.         Vapor density       Not determined.         Vapor density       Not applicable.         Vapor density       Not appl	Personal protective equipment General protective and hygienic meas The usual precautionary measures for h Keep away from foodstuffs, beverages a Remove all soiled and contaminated clo Wash hands before breaks and at the e Maintain an ergonomically appropriate v Breathing equipment: Use suitable respiratory protective devic Recommended filter device for short Use suitable respiratory protective devic Recommended filter device for short Use a respirator with type N95 (USA) or purifying respirators are appropriate. Of Protection of hands: Impervious gloves Check protective gloves prior to each us The selection of suitable gloves not only Eye protection: Safety glasses with sid Body protection: Protective work clother	handling chemicals should be followed. and feed. Sond of work. working environment. entrations are present. ce in case of insufficient ventilation. • <b>term use:</b> r PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air- only use equipment tested and approved under appropriate government standards. se for their proper condition. y depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. de shields / NIOSH (US) or EN 166(EU) ing.
General Information       Form:         Appearance:       Form:         Form:       Powder         Odor:       Not determined         Odor threshold:       Not determined.         pH-value:       Not applicable.         Change in condition       Melting point/Melting range:         Melting point/Melting range:       Not determined         Sublimation temperature / start:       Not determined         Ignition temperature:       Not determined         Ignition temperature:       Not determined         Decomposition temperature:       Not determined         Danger of explosion:       Not determined.         Lower:       Not determined.         Lower:       Not determined.         Denger of explosion:       Not determined.         Vapor pressure:       Not determined.         Lower:       Not determined.         Vapor pressure:       Not determined.         Density:       Not determined.         Vapor pressure:       Not determined.         Vapor density       Not determined.         Vapor density:       Not determined.         Vapor density:       Not determined.         Vapor density:       Not determined.         Vapor dens		
Odor threshold:         Not determined.           pH-value:         Not applicable.           Change in condition	General Information Appearance: Form:	Powder
Change in condition       Melting point/Melting range:       203-205 °C (397-401 °F) (dec)         Boiling point/Boiling range:       Not determined         Sublimation temperature / start:       Not determined         Flammability (solid, gaseous)       Not determined         Ignition temperature:       Not determined         Decomposition temperature:       Not determined         Auto igniting:       Not determined         Explosion limits:       Not determined         Lower:       Not determined         Upper:       Not determined         Vapor pressure:       Not determined         Relative density       Not determined         Relative density       Not determined         Vapor density       Not determined         Vapor density       Not determined         Vapor fressure:       Not determined         Bungle:       Not determined         Vapor gressure:       Not applicable.         Solubility in / Miscibility with       Not determined.         Water:       Soluble         Solubility in / Miscibility with       Soluble         Partition coefficient (n-octanol/water): Not determined.         Viscosity:       Not applicable.         Not applicable.       Not applicable. </th <th>Odor threshold:</th> <th>Not determined.</th>	Odor threshold:	Not determined.
Danger of explosion:       Not determined.         Explosion limits:       Not determined         Lower:       Not determined         Upper:       Not determined         Vapor pressure:       Not applicable.         Density:       Not determined         Relative density       Not determined.         Vapor density       Not applicable.         Evaporation rate       Not applicable.         Solubility in / Miscibility with       Soluble         Partition coefficient (n-octanol/water):       Not determined.         Viscosity:       Not applicable.         dynamic:       Not applicable.	Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature:	203-205 °C (397-401 °F) (dec) Not determined Not determined Not determined. Not determined Not determined
Solubility in / Miscibility with Water: Soluble Partition coefficient (n-octanol/water): Not determined. Viscosity: dynamic: Not applicable.	Danger of explosion: Explosion limits: Lower: Upper: Vapor pressure: Density: Relative density Vapor density	Not determined Not determined Not applicable. Not determined Not determined. Not determined. Not applicable.
dynamic: Not applicable.	Solubility in / Miscibility with Water: Partition coefficient (n-octanol/water)	Soluble
		Not applicable.
		(Contd. on page US

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Other information	No further relevant information available.	
Thermal decomposition / cond	er recommended storage conditions. ditions to be avoided: Decomposition will not occur if used and stored according to specifications. tions Reacts with strong oxidizing agents relevant information available. zing agents oducts:	
<b>Reproductive toxicity:</b> No effect Specific target organ system t	vn. ant for classification: No data lay cause irritation sy cause irritation fects known. ion data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. cts known. toxicity - repeated exposure: No effects known. toxicity - single exposure: No effects known.	
Subacute to chronic toxicity:		
Bioaccumulative potential No Mobility in soil No further releva Additional ecological informat General notes: Do not allow undiluted product o Avoid transfer into the environm Results of PBT and vPvB asse PBT: Not applicable. vPvB: Not applicable.	r No further relevant information available. further relevant information available. 'ant information available. <b>tion:</b> or large quantities to reach ground water, water course or sewage system. eent.	
Uncleaned packagings: Recommendation: Disposal mu	e, local or national regulations to ensure proper disposal. ust be made according to official regulations. <b>nt:</b> Water, if necessary with cleansing agents.	
14 Transport information		
UN-Number DOT, ADN, IMDG, IATA	Not applicable	
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not applicable	
Transport hazard class(es)	Not approasio	
DOT, ADR, ADN, IMDG, IATA Class	Not applicable	
Packing group DOT, ADR, IMDG, IATA		
	Not applicable	
Environmental hazards: Special precautions for user	Not applicable. Not applicable.	
· · ·	o Annex II of MARPOL73/78 and the IBC Code Not applicable.	
Transport/Additional informat		
DOT		
Marine Pollutant (DOT): UN "Model Regulation":	No Not applicable	
15 Regulatory information Safety, health and environmer GHS label elements Not applica Hazard pictograms Not applicable Hazard statements Not applica National regulations	ntal regulations/legislation specific for the substance or mixture able able able are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. are listed on the Canadian Non-Domestic Substances List (NDSL).	
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## Product name: Tetrabromophenol Blue

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USA

(Contd. of page 3 California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male 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. market and use must be observed. Substance is not listed. 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 Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. Conformance with this 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/Revision: Print date, revision date and version number are in the header of each page.
Abbreviations and acronym:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Air Transport Association
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (Canada)
LC50: Lethal concentration, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Cherence of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
IATA: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)