

BOWMAN DISTRIBUTION MATERIAL SAFETY DATA SHEET

Flammability	N.D.
Reactivity	N.D.
Personal Protection	N.D.

Health	2
Flammability	1
Reactivity	0
Specific Hazard	W.

HMS Ratings

SECTION I

NFPA Ratings

PRODUCT NAME BOWMAN SOLDER		BOWMAN PART NO. 21562, 21562-1 (page 1 of 3)	
SUPPLIER Bowman Distribution, Barnes Group Inc.		INFORMATION TELEPHONE NO. (216) 416-7200	
ADDRESS 1301 E. 9th St., Suite 700, Cleveland, Ohio 44114-1824		DATE 3/17/97	
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) Consumer Commodity, ORM-D			
ADDITIONAL HAZARD CLASSES (as applicable) None			
CHEMICAL FAMILY Solid Wire Solder		FORMULA 50% Tin/ 50% Lead	

SECTION II - HAZARDOUS INGREDIENTS

CAS REGISTRY NUMBER	%W	%V	CHEMICAL NAME(S)	OSHA PEL	ACGIH TLV	Other Limits	Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify)
7439-92-1	†		* Lead	0.05mg/m ³	0.15mg/m ³		IARC: 2B
7440-31-5	†		Tin	2.0mg/m ³	2.0mg/m ³		No
7440-22-4	†		* Silver	0.01mg/m ³	0.1mg/m ³		No
7440-64-9	†		Bismuth	N.E.	N.E.		No
7440-36-0	†		* Antimony	0.5mg/m ³	0.5mg/m ³		No
7440-74-6	†		Indium	N.E.	0.1mg/m ³		No
			† Product contains one or more of these metallic elements in varying percentages - see product label for actual composition				

ALL CHEMICAL COMPOUNDS MARKED WITH AN ASTERISK () ARE TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 AND 40 CFR PART 372. All ingredients of this product are on the TSCA inventory.

SECTION III - PHYSICAL DATA

BOILING POINT N.A.	SPECIFIC GRAVITY (H ₂ O = 1)	N.A.	MAXIMUM PERCENT VOC BY WEIGHT (%)
_____ °F _____ °C			% N.A. Method used <u>Calculated</u>
VAPOR PRESSURE N.A.	PERCENT VOLATILE BY VOLUME (%)	N.A.	
@ _____ °F _____ °C <input type="checkbox"/> mm Hg <input type="checkbox"/> psi			
VAPOR DENSITY (AIR = 1) N.A.	EVAPORATION RATE (Ether = 1)	N.A.	
SOLUBILITY IN WATER Insoluble	PH =	N.A.	PERCENT SOLID BY WEIGHT (%) N.A.
APPEARANCE AND ODOR Silver, gray metal wire, odorless. Various shapes and sizes.			MATERIAL IS: Solid

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT N.A.	method used	FLAMMABLE LIMITS	
_____ °F _____ °C		LEL	UEL
EXTINGUISHING MEDIA N.A.		N.A.	N.A.
SPECIAL FIRE FIGHTING PROCEDURES Use NIOSH approved self contained breathing apparatus and full protective clothing if involved in a fire.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Moderate in the form of dust when exposed to heat or flame. When heated to high temperatures, lead emits highly toxic fumes.			

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SECTION V - HEALTH HAZARD DATA

HEALTH HAZARDS (ACUTE AND CHRONIC - INCLUDE TARGET ORGAN EFFECTS)
See Signs and Symptoms of Overexposure below and Section X.

CONDITIONS TO AVOID
Do not take internally.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Lead: Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, insomnia, weakness, constipation, nausea and abdominal pain. Overexposure may cause damage to blood-forming, nervous, reproductive, intestinal and urinary systems. For occupational requirements see 29 CFR 1910.1025 Lead Standard and its appendices. Chronic toxicity: Women of child bearing age should avoid exposure to lead and its inorganic compounds due to post-natal effects. Lead can cause potential injury to developing fetus and possible effects on

PRIMARY ROUTES OF ENTRY Inhalation Skin Contact Other (specify) Eyes

EMERGENCY AND FIRST AID PROCEDURES
Inhalation: Lead: Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be removed from exposure and a physician consulted. Ingestion: Call a physician or Poison Control Center at once. Skin contact: For hot metal burns, exposed area should be cooled with water and medical attention sought. After handling solid solder wire, bar, etc., wash thoroughly with soap and water. Dust, vapor and/or fume are not readily absorbed through the skin. Eye contact: Flush with water, contact a physician. Dust or fume may cause irritation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Diseases of the blood and blood-forming organs, kidneys, nervous and possibly reproductive systems.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	None

INCOMPATIBILITY (materials to avoid)
Oxidizing materials, acids, hydrogen peroxide > 52 %.

HAZARDOUS DECOMPOSITION PRODUCTS
Lead oxide and antimony oxide fume may be evolved at temperatures greater than 1000 degrees F (538 deg C).

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	None

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Avoid inhalation of solder fume or dust. Vacuuming or washing is recommended. Do not use dry sweeping or compressed air cleaning systems.

WASTE DISPOSAL METHOD
Scrap or waste solder should be recycled or stored in sealed containers for later disposal. Must be in accordance with Federal, State and Local Laws and Regulations.

CERCLA (Superfund) REPORTABLE QUANTITY (in lbs.)
N.D.

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33)
N.D.

VOLATILE ORGANIC COMPOUND (VOC) as packaged, minus water N.D.

<input type="checkbox"/> Theoretical _____ lb/gal
<input type="checkbox"/> Analytical _____ lb/gal

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
A NIOSH/MSHA approved dust/fume respirator should be worn where airborne exposures may exceed OSHA/ACGIH permissible air concentrations.

VENTILATION	LOCAL EXHAUST (specify rate) Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure levels below TLVs.
	MECHANICAL (general) (specify rate) Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure levels below TLVs.

PROTECTIVE GLOVES (specify type) Protective gloves to reduce burn exposure.	EYE PROTECTION (specify type) When soldering use a face shield and /or eye goggles.
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OTHER PROTECTIVE EQUIPMENT
Work clothes should be worn and laundered in accordance with current OSHA lead standards.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING No special requirements for storage. Read all container labeling. Food and drink should not be consumed or tobacco products used, nor cosmetics applied in areas where core solders may be used. Always wash hands after handling core solder and before eating, drinking or smoking.

OTHER PRECAUTIONS
Containers: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed.

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

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BOWMAN DISTRIBUTION, BARNES GROUP INC.
850 East 72nd Street, Cleveland, Ohio 44103
Telephone No. (216) 391-7200
24 Hour Emergency No. (303) 823-5716
12/8/95

SECTION X - ADDITIONAL INFORMATION

LISTED CARCINOGENS None of the metal elements of this product are confirmed as human carcinogens at this time by NTP, IARC, or OSHA. IARC classifies lead and some lead compounds as 2B carcinogens (possibly carcinogenic to humans).

NOTES TO PHYSICIAN Lead and its inorganic compounds are neurotoxins which may produce peripheral neuropathy. For an overview of the effects of lead exposure, consult Occupational Safety and Health Administration Appendix A of Occupational Exposure to Lead (29 CFR 1910.1025).

SYMPTOMS OF OVEREXPOSURE: Tin: Dust or fume may cause irritation of the skin, mucous membranes, and may result in a benign pneumoconiosis (stannosis). Silver: May cause discoloration of eyes and skin (argyria). Bismuth: May cause foul breath, a blue-black line on the gums and stomatitis. Antimony: May cause gastrointestinal upset, sleeplessness, irritability and muscular pain. May also cause respiratory tract irritation, metallic taste or damage to kidney, liver or nervous system. Indium: May cause weight loss, pulmonary edema, blood damage and degenerative changes in liver and kidneys.

WARNING: This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

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