

BISMUTH

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A. PRODUCT / COMPANY IDENTIFICATION

TRADE NAME (COMMON OR SYNONYM) Bismuth, Bismuth pellets, Bismuth Powder, Bismuth Metal		ASARCO PRODUCT CODE # Not Available	
CHEMICAL NAME Bismuth	FORMULA Bi	MOLECULAR WEIGHT 209	
ADDRESS (No., STREET, CITY, STATE, AND ZIP CODE) ASARCO Incorporated 2575 East Camelback Road Suite 500 Phoenix, Arizona 85016 Phone: 602-977-6500			
CONTACT General Information Environmental Services Group First Aid Information Transportation Emergencies - CHEMTREC	PHONE NUMBER 602-977-6500 415-377-0985 800-424-9300	ISSUE DATE 7/25/93	REVISION DATE 6/6/02

B. COMPOSITION/INFORMATION INGREDIENTS

MATERIAL OR COMPONENT	C.A.S. #	WT. %	PERMISSIBLE AIR CONC (mg/m3)	
			OSHA	ACGIH
Bismuth	7440-69-9	99.9+	None Published	None Published

C. HAZARDS IDENTIFICATION

PRIMARY ROUTE OF ENTRY	INGESTION <input type="checkbox"/>	INHALATION <input checked="" type="checkbox"/>	SKIN <input type="checkbox"/>	CARCINOGENICITY Not listed as a carcinogen by OSHA, IARC, NTP.
ACUTE OVEREXPOSURE (SYMPTOMS AND EFFECTS) No reported or recognized ill effects have been traced to bismuth metal. All reported toxicity data has been determined on soluble bismuth pharmaceuticals that are no longer used.				
CHRONIC OVEREXPOSURE (SYMPTOMS AND EFFECTS) No reported or recognized ill effects				
MEDICAL CONDITIONS POSSIBLY AGGRAVATED None known				

D. FIRST AID MEASURES

Inhalation: Remove from exposure; place individual under care of a physician.
Ingestion: Induce vomiting in conscious individual and call a physician.
Skin or Eyes: Flush with plenty of water. If symptoms develop, consult a physician.

E. FIRE FIGHTING MEASURES

FLASH POINT Not Applicable	AUTO IGNITION TEMPERATURE Not Applicable	FLAMMABLE LIMITS IN AIR (% BY VOL) Not Applicable
USUAL FIRE AND EXPLOSION HAZARDS Not Applicable	FIRE EXTINGUISHING AGENTS RECOMMENDED No specific agents recommended	FIRE EXTINGUISHING AGENTS TO AVOID No specific agents
SPECIAL FIRE FIGHTING PRECAUTIONS Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire.		

F. RELEASE MEASURES

SPILLS AND LEAKS

Any method which keeps dust to a minimum is acceptable. Vacuuming is preferred for dust. Use approved respiratory protection if possibility of dust or fume exists. Do not use compressed air for cleaning.

G. HANDLING AND STORAGE

NORMAL HANDLING

Use of approved respirators is required for applications where adequate ventilation cannot be provided. Activities which generate dust or fume should be avoided. When melted, the temperature should be kept as low as possible

STORAGE

General storage procedures acceptable

H. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Local exhaust ventilation is recommended for dust and/or fume generating operations where airborne exposures may exceed permissible air concentrations

PERSONAL HYGIENE

Avoid inhalation or ingestion. Practice good housekeeping and personal hygiene procedures. A shower is recommended if significant dust exposure occurs.

SPECIAL PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

No special precautions

LABEL SIGNAL WORD CAUTION

RESPIRATORY PROTECTION

Where airborne exposures may exceed OSHA/ACGIH permissible air concentrations, the minimum respiratory protection recommended is a negative pressure air purifying respirator with cartridges/filters NIOSH Approved N99, R99, P99.

EYES AND FACE

Safety glasses recommended where the possibility of getting dust particles in eyes exists

OTHER CLOTHING AND EQUIPMENT

Protective clothing is recommended for jobs with heavy dust exposure to prevent skin irritation. Contaminated clothing should be removed before leaving plant premises.

I. PHYSICAL / CHEMICAL PROPERTIES

MATERIAL IS (AT NORMAL CONDITIONS) Solid		APPEARANCE AND COLOR Silver gray metal, pellets, chunks, powder	
MELTING POINT (C) 271	BOILING POINT (C) 1630	SPECIFIC GRAVITY (H ₂ O = 1) 9.8	VAPOR DENSITY (AIR=1) Not Applicable
SOLUBILITY IN WATER (BY WT) Insoluble	pH Not Applicable	VAPOR PRESSURE (mm Hg) Not Applicable	EVAPORATION RATE Not Applicable

J. STABILITY / REACTIVITY

STABILITY Stable	CONDITIONS TO AVOID Not Applicable
COMPATIBILITY (MATERIALS TO AVOID) powdered bismuth may be incompatible with ammonium with ammonium nitrate and chlorine.	HAZARDOUS DECOMPOSITION PRODUCTS At temperatures above the melting point, metal oxide fumes may be evolved
HAZARDOUS POLYMERIZATION Will not occur	CONDITIONS TO AVOID Not Applicable

K. TOXICOLOGICAL INFORMATION

LD50 (SPECIES, GROUP) Not available	LC50 (SPECIES) Not available	MUTAGENICITY Not available
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L. ECOLOGICAL INFORMATION

ECOTOXICITY Not available	ENVIRONMENTAL FATE Not available
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M. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS MUST COMPLY WITH FEDERAL, STATE, AND LOCAL DISPOSAL OR DISCHARGE LAWS If hazardous under 40 CFR 261, Subparts B and C, material must be treated or disposed in a facility meeting the requirements of 40 CFR 264 or 265. If non-hazardous, material should be disposed in a facility meeting the requirements of 40 CFR 257	
RCRA STATUS OF UNUSED MATERIAL If discarded in unaltered form, material should be tested to determine if it must be classified as a hazardous waste for disposal purposes. Under specific circumstances, application can be made to the EPA Administrator to have a particular waste designated non-hazardous.	40 CFR 261

N. TRANSPORT

DOT REGULATION AND ID (OR PIN) NUMBER Not regulated by the DOT.

O. REGULATORY INFORMATION

WHMIS CLASSIFICATION, SARA REGULATION, AND OTHER INFORMATION WHMIS does not classify this material. TSCA Status.....: On TSCA Inventory Regulated under SARA Title III: Sect. 302.....: None Sect. 311/312.....: None Sect. 313 Chemicals.....: None CERCLA Reportable Quantity.....: None
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P. REFERENCES

PERMISSIBLE CONCENTRATION REFERENCES

OSHA regulations for airborne contaminants 29 CFR 1910.1000 . ACGIH Threshold Limit Values for Chemical Substances

HAZARD INFORMATION REFERENCES

Documentation of the Threshold Limit Values, 6th Ed., ACGIH
Patty's Industrial Hygiene and Toxicology, Vol. 2, 4th Edition
Chemical Hazards of the Workplace, JB Lippincott, 1991
Hazardous Materials Toxicology, Williams and Wilkins, 1992
NFPA Fire Protection Guide on Hazardous Materials, 11th Ed.
TOMES Plus Database; Micromedex, Inc., Vol. 17, 1993
DATATOX Database; Spectrum Research, Inc., Version 2.0, 1992

GENERAL

Handbook of Chemistry and Physics, 57th Ed., 1976-77, Weast, R.C., Editor, CRC Inc.

Q. ADDITIONAL INFORMATION

INFORMATION (HAZARDS, FIRST AID, ETC) IS ABBREVIATED. MORE INFORMATION IS CONTAINED IN
REFERECNES FOUND IN SECTION P.

No additional information.

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