SAFETY DATA SHEET

Creation Date 16-Nov-2010 **Revision Date** 09-Feb-2024 **Revision Number** 7

1. Identification

Product Name **Wood`s metal**

Cat No. : **AC388550000; AC388551000; AC388555000**

CAS No 76093-98-6
Synonyms No information available

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Inhalation Toxicity - Dusts and Mists	Category 2
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 1A
Effects on or via lactation	
Specific target organ toxicity - (repeated exposure)	Category 1

Target Organs - Liver, Kidney, Blood, Central nervous system (CNS), skeletal system.

Label Elements

Signal Word
Danger

Hazard Statements
Fatal if inhaled
Suspected of causing genetic defects
May cause cancer
May damage fertility. May damage the unborn child
May cause harm to breast-fed children
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Avoid contact during pregnancy/while nursing
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects
WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	100
Bismuth	7440-69-9	-
Lead	7439-92-1	-
Tin	7440-31-5	-
Cadmium	7440-43-9	-

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects None reasonably foreseeable.

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature No information available
Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Non-combustible. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products
Toxic fumes. Heavy metal oxides.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
4	0	0	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Storage. Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	TWA: 2 mg/m³ TWA: 0.05 mg/m³ TWA: 0.01 mg/m³ TWA: 0.002 mg/m³	(Vacated) TWA: 2 mg/m³	IDLH: 100 mg/m³ IDLH: 9 mg/m³ TWA: 2 mg/m³ TWA: 0.050 mg/m³	TWA: 2 mg/m³ TWA: 0.05 mg/m³ TWA: 0.002 mg/m³ STEL: 4 mg/m³
Lead	TWA: 0.05 mg/m³	TWA: 50 µg/m³	IDLH: 100 mg/m³ TWA: 0.050 mg/m³	TWA: 0.05 mg/m³
Tin	TWA: 2 mg/m³	(Vacated) TWA: 2 mg/m³	IDLH: 100 mg/m³ TWA: 2 mg/m³	TWA: 2 mg/m³ STEL: 4 mg/m³
Cadmium	TWA: 0.01 mg/m³ TWA: 0.002 mg/m³	Ceiling: 0.3 mg/m³ Ceiling: 0.6 mg/m³ (Vacated) STEL: 0.3 ppm TWA: 5 µg/m³	IDLH: 9 mg/m³	TWA: 0.01 mg/m³ TWA: 0.002 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Particulates filter conforming to EN 143.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Solid
Appearance	Grey
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	70 °C / 158 °F
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	

Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Specific Gravity	No information available
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	Bi . Cd . Pb . Sn

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Toxic fumes, Heavy metal oxides

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Mist LC50 Category 2. ATE = 0.05 - 0.5 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Bismuth	LD50 = 5 g/kg (Rat)	Not listed	Not listed
Tin	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	LC50 > 4.75 mg/L (Rat) 4 h
Cadmium	LD50 = 2330 mg/kg (Rat)	Not listed	LC50 = 25 mg/m³ (Rat) 30 min

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization May cause sensitization by skin contact

Carcinogenicity Possible cancer hazard. May cause cancer based on animal data. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B). The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn	76093-98-6	Not listed	Known Reasonably	A3 A2	Not listed	Not listed

12			Anticipated			
Bismuth	7440-69-9	Not listed	Not listed	Not listed	Not listed	Not listed
Lead	7439-92-1	Group 2A	Reasonably Anticipated	A3	X	A3
Tin	7440-31-5	Not listed	Not listed	Not listed	Not listed	Not listed
Cadmium	7440-43-9	Group 1	Known	A2	X	A2

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)
NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens
Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects Contains a known or suspected mutagen

Reproductive Effects Product is or contains a chemical which is a known or suspected reproductive hazard. May impair fertility. Possible risk of harm to the unborn child.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known
STOT - repeated exposure Liver Kidney Blood Central nervous system (CNS) skeletal system

Aspiration hazard No information available

Symptoms / effects,both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects May cause respiratory irritation. May be harmful if absorbed through the skin. May cause irritation of the digestive tract. The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Lead	Not listed	LC50: = 1.32 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 1.17 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 0.44 mg/L, 96h semi-static (Cyprinus carpio)	Not listed	EC50: = 600 µg/L, 48h (water flea)
Cadmium	Not listed	LC50: 0.0004 - 0.003 mg/L,	Not listed	EC50: = 0.0244 mg/L, 48h

		96h (Pimephales promelas) LC50: = 0.016 mg/L, 96h (Oryzias latipes) LC50: = 21.1 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 0.24 mg/L, 96h static (Cyprinus carpio) LC50: = 4.26 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 0.002 mg/L, 96h (Cyprinus carpio) LC50: = 0.006 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.003 mg/L, 96h flow-through (Oncorhynchus mykiss)		Static (Daphnia magna)

Persistence and Degradability Insoluble in water May persist

Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2570
Proper Shipping Name Cadmium compounds
Technical Name Cadmium, Lead
Hazard Class 6.1
Packing Group II

TDG

UN-No UN2570
Proper Shipping Name CADMIUM COMPOUND
Hazard Class 6.1
Packing Group II

IATA

UN-No UN2570
Proper Shipping Name CADMIUM COMPOUND
Hazard Class 6.1
Packing Group II

IMDG/IMO

UN-No UN2570
Proper Shipping Name CADMIUM COMPOUND
Hazard Class 6.1
Packing Group II

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	-	-	-
Bismuth	7440-69-9	X	ACTIVE	-

Lead	7439-92-1	X	ACTIVE	-
Tin	7440-31-5	X	ACTIVE	-
Cadmium	7440-43-9	X	ACTIVE	-

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

Component	CAS No	**TSCA 12(b)** - Notices of Export
Lead	7439-92-1	Section 6

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	-	-	-	-	-		-	-	-
Bismuth	7440-69-9	X	-	231-177-4	X	X		X	X	KE-03313
Lead	7439-92-1	X	-	231-100-4	X	X		X	X	KE-21887
Tin	7440-31-5	X	-	231-141-8	X	X		X	X	KE-33838
Cadmium	7440-43-9	X	-	231-152-8	X	X		X	X	KE-04397

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372. Note that PBT chemicals are not eligible for the de minimis exemption. For these chemicals, supplier notification limits are provided.
> 0 % = no low concentration cut-off set, supplier notification limit applies.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting threasholds
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	100	> 0 %	RT = 100 lb
Lead	7439-92-1	-	> 0 %	RT = 100 lb
Cadmium	7440-43-9	-	0.1 %	-

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	-	-	X	-
Lead	-	-	X	X
Cadmium	-	-	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors

Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	X		-

OSHA - Occupational Safety and Health Administration **OSHA** - United States Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	30 µg/m³ Action Level 50 µg/m³ TWA 5 µg/m³ TWA 2.5 µg/m³ Action Level	-
Lead	30 µg/m³ Action Level 50 µg/m³ TWA	-
Cadmium	5 µg/m³ TWA 2.5 µg/m³ Action Level	-

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Lead	10 lb	-	10 lb 4.54 kg
Cadmium	10 lb	-	10 lb 4.54 kg

California Proposition 65 This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	Carcinogen	-	Carcinogen
Lead	7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive	15 µg/day	Developmental Carcinogen
Cadmium	7440-43-9	Carcinogen Developmental Male Reproductive	0.05 µg/day	Developmental Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	-	X	X	X	X
Lead	X	X	X	X	X
Tin	X	X	X	-	X
Cadmium	X	X	X	X	X

U.S. Department of Transportation
Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	-	Use restricted. See item 23. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) Use restricted. See item 30. (see link for restriction details) Use restricted. See item 63. (see link for restriction details)	-
Bismuth	7440-69-9	-	-	-
Lead	7439-92-1	-	Use restricted. See item 72. (see link for restriction details) Use restricted. See item 30. (see link for restriction details) Use restricted. See item 63. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 231-100-4 - Toxic for reproduction (Article 57c)
Tin	7440-31-5	-	Use restricted. See item 75. (see link for restriction details)	-
Cadmium	7440-43-9	-	Use restricted. See item 72. (see link for restriction details) Use restricted. See item 23. (see link for restriction details) Use restricted. See item 28. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 231-152-8 - Carcinogenic, Article 57a;Specific target organ toxicity after repeated exposure, Article 57(f) - human health

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links
https://echa.europa.eu/authorisation-list
https://echa.europa.eu/substances-restricted-under-reach

https://echa.europa.eu/candidate-list-table

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	Not applicable	Not applicable	Not applicable	Not applicable
Bismuth	7440-69-9	Not applicable	Not applicable	Not applicable	Not applicable
Lead	7439-92-1	Listed	Not applicable	Not applicable	0.1% (Max. Conc.)
Tin	7440-31-5	Listed	Not applicable	Not applicable	Not applicable
Cadmium	7440-43-9	Listed	Not applicable	Not applicable	0.01% (Max. Conc.)

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Bismuth alloy, base, Bi 50, Pb 25, Cd 12, Sn 12	76093-98-6	Not applicable	Not applicable	Not applicable	Annex I - Y26 Annex I - Y31
Bismuth	7440-69-9	Not applicable	Not applicable	Not applicable	Not applicable
Lead	7439-92-1	Not applicable	Not applicable	Not applicable	Annex I - Y31
Tin	7440-31-5	Not applicable	Not applicable	Not applicable	Not applicable
Cadmium	7440-43-9	Not applicable	Not applicable	Not applicable	Annex I - Y26

16. Other information

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS