

Australian statement of hazardous nature: Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name 44 Flux-Cored Lead (Pb) Solder

Product Code VMM361A20R

Address ThermoFisher Scientific Australia Pty Ltd

> 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia

Emergency Tel. CHEMTREC®

03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers Tel: 1300 735 292

Fax: 1800 067 639

E-mail address ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

> This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National

Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

No hazards identified

Health hazards

Acute Oral Toxicity Category 4 Acute Inhalation Toxicity - Dusts and Mists Category 4 Reproductive Toxicity Category 1A Specific target organ toxicity - (repeated exposure) Category 2

Environmental hazards

Acute aquatic toxicity Category 1 Chronic aquatic toxicity Category 1

Label Elements

AUS-000169 Version 2 14-Jul-2023 Page 1/11







Exclamation Mark

Health Hazard

Signal Word Danger

Hazard Statements

H360 - May damage fertility or the unborn child

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H302 + H332 - Harmful if swallowed or if inhaled

Precautionary Statements

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P330 - Rinse mouth

P403 - Store in a well-ventilated place

P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Tin	7440-31-5	30-65
Lead	7439-92-1	30-65
Silver	7440-22-4	3-5
Copper	7440-50-8	<30
Bismuth	7440-69-9	<30
Antimony	7440-36-0	<30

Section 4 - First Aid Measures

Inhalation Remove to fresh air.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes.

AUS-000169 Version 2 14-Jul-2023 Page 2/11

Consult a physician.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and

effects

Eye Contact

No information available.

Notes to Physician Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation.

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.

Methods for Containment and Clean Up

Clean-up methods - small spillage

Clean-up methods - large spillage

Typically only supplied is small quantiites as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Ensure adequate ventilation.

Conditions for Safe Storage, Including any Incompatibilities

AUS-000169 Version 2 14-Jul-2023 Page 3 / 11

Keep container tightly closed in a dry and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)] Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Tin	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	STEL: 4 mg/m ³ 15 min TWA: 2 mg/m ³ 8 hr	
Lead	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³	STEL: 0.45 mg/m³ 15 min TWA: 0.15 mg/m³ 8 hr	TWA: 0.004 mg/m³ (8 Stunden). MAK Höhepunkt: 0.032 mg/m³
Silver	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m³	STEL: 0.3 mg/m ³ 15 min TWA: 0.1 mg/m ³ 8 hr	TWA: 0.1 mg/m³ (8 Stunden). AGW - exposure factor 8 TWA: 0.1 mg/m³ (8 Stunden). MAK Höhepunkt: 0.8 mg/m³
Copper	TWA: 1 mg/m³ TWA: 0.2 mg/m³	TWA: 0.01 mg/m ³	TWA: 0.2 mg/m ³	STEL: 0.6 mg/m³ 15 min STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr TWA: 0.2 mg/m³ 8 hr	TWA: 0.01 mg/m³ (8 Stunden). MAK Höhepunkt: 0.02 mg/m³
Antimony	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	STEL: 1.5 mg/m ³ 15 min TWA: 0.5 mg/m ³ 8 hr	

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Component	Australia	New Zealand	European Union	United Kingdom	Germany
Lead		3 μg/dL (blood) not			Lead: 150 µg/L whole
		critical (Lead)			blood (no restriction)
		0.14 µmol/L (blood) not			
		critical (Lead)			
		0.48 µmol/L (blood) not			
		critical (Lead)			
		10 μg/dL (blood) not			
		critical (Lead)			

Exposure Controls Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard

AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

AUS-000169 Version 2 14-Jul-2023 Page 4/11

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Disposable gloves	See manufacturers	-	AS/NZS 2161	(minimum requirement)
	recommendations			

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g., sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger

Remove gloves with care avoiding skin contamination.

Long sleeved clothing Skin and body protection

Repiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

and maintenance of repiratory protective devices (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

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

Prevent product from entering drains. Do not allow material to contaminate ground water **Environmental exposure controls**

system. Local authorities should be advised if significant spillages cannot be contained.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Silver **Physical State** Solid

No information available Odor **Odor Threshold** No data available

pН Not applicable

183 - 301 °C / 361.4 - 573.8 °F Melting Point/Range

Softening Point No data available **Boiling Point/Range** Not applicable

Flash Point Not applicable Method - No information available

Evaporation Rate Not applicable Solid

Flammability (solid,gas) No information available

Explosion Limits No data available

Vapor Pressure No data available

Not applicable **Vapor Density** Solid

No data available Specific Gravity / Density **Bulk Density** No data available Water Solubility No information available Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Autoignition Temperature Not applicable **Decomposition Temperature** No data available

Viscosity Not applicable Solid

Explosive Properties No information available **Oxidizing Properties** No information available

Other information

Section 10 - Stability and Reactivity

AUS-000169 Version 2 14-Jul-2023 Page 5/11 _____

Reactivity None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Heat, flames and sparks.

Incompatible Materials None known.

Hazardous Decomposition Products None under normal use conditions.

Hazardous Polymerization No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral Category 4
Dermal No data available
Inhalation Category 4

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tin	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	LC50 > 4.75 mg/L (Rat) 4 h
Silver	> 2000 mg/kg (Rat)	LD50 > 2000 mg/kg (rat)	LC50 > 5.16 mg/L (Rat) 4 h
Copper			LC50 > 5.11 mg/L (Rat) 4 h
Bismuth	LD50 = 5 g/kg (Rat)		
Antimony	LD50 = 7 g/kg (Rat)		

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	Australia	New Zealand	New South	Western	IARC	EU	UK	Germany
			Wales	Australia				_
Lead		Suspected carcinogen			Group 2A			
Antimony								Cat. 2

(g) reproductive toxicity; Category 1A

(h) STOT-single exposure; No data available

AUS-000169 Version 2 14-Jul-2023 Page 6 / 11

(i) STOT-repeated exposure; Category 2

Target Organs No information available.

(j) aspiration hazard; Not applicable

Solid

Symptoms / effects,both acute and No information available delayed

Section 12 - Ecological Information

Ecotoxicity effects

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.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Lead	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)	(water flea)		
Silver	LC50: = 0.064 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.0062 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.00155 - 0.00293 mg/L, 96h static (Pimephales promelas)	EC50: = 0.00024 mg/L, 48h Static (Daphnia magna)		
Copper	Onchorhynchys mykiss: LC50=0.15 mg/L 96h Cuprinus carpio: LC50=0.8 mg/L 96h	EC50: = 0.03 mg/L, 48h Static (Daphnia magna)		
Antimony	Cyprinodon variegatus: LC50 = 6.2-8.3 mg/L/96h			

Persistence and Degradability
Degradation in sewage

No information available

Degradation in sewage treatment plant
Bioaccumulative Potential

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

No information available

Mobility

No information available.

Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues/Unused Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

AUS-000169 Version 2 14-Jul-2023 Page 7/11

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Chemical wastes should be disposed through a licensed commercial waste collection

service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this

chemical enter the environment.

Section 14 - Transport Information

IMDG/IMO Not regulated

Component	IMDG Marine Pollutant
Copper	IMDG regulated marine pollutant (Listed in the index, listed under
7440-50-8 (<30)	Copper metal powder)

ADG Not regulated

Component	Hazchem Code
Antimony	2X
7440-36-0 (<30)	

<u>IATA</u> Not regulated

Environmental hazards Dangerous for the environment

Product is a marine pollutant according to the criteria set by IMDG/IMO

Special Precautions No special precautions required

Additional information None known

Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Lead - 7439-92-1	Schedule 4 listed - in human therapeutic use
Silver - 7440-22-4	Schedule 2 listed
Antimony - 7440-36-0	Schedule 4 listed - for therapeutic use except when separately specified in these Schedules

Australian Industrial Chemicals Introduction Scheme (AICIS)

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Tin - 7440-31-5	Present	-
Lead - 7439-92-1	Present	-
Silver - 7440-22-4	Present	-
Copper - 7440-50-8	Present	-
Bismuth - 7440-69-9	Present	-

AUS-000169 Version 2 14-Jul-2023 Page 8/11

Antimony - 7440-36-0	Present	-

Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemicals of Security Concern

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

National pollutant inventory Subject to reporting requirements

Component	National pollutant inventory
Lead - 7439-92-1	10 tonne/yr. Threshold category 1
	2000 tonne/yr. Threshold category 2b
	60000 MWH. Threshold category 2b
	20 MW. Threshold category 2b
Copper - 7440-50-8	10 tonne/yr. Threshold category 1
	2000 tonne/yr. Threshold category 2b
	60000 MWH. Threshold category 2b
	20 MW. Threshold category 2b
Antimony - 7440-36-0	10 tonne/yr. Threshold category 1

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

Component	Australia	New South Wales	Western Australia	New Zealand
Lead - 7439-92-1				Suspected carcinogen

International Inventories

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Tin	Х	Х	231-141-8	-	Х	Х	-	Х	Х		Х	KE-33838
Lead	Х	Х	231-100-4	-	Х	Х	-	Х	Х		Х	KE-21887
Silver	Х	Х	231-131-3	-	Х	Х	-	Х	Х		Х	KE-31261
Copper	Х	Х	231-159-6	-	Х	Х	-	Х	Х		Х	KE-08896
Bismuth	Х	Х	231-177-4	-	Х	Х	-	Х	Х		Х	KE-03313
Antimony	X	Х	231-146-5	-	Х	Х	-	Х	Х		Х	KE-01834

Legend: X - Listed. '-' - Not Listed. KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

MARPOL - International Convention for the

Prevention of Pollution from Ships

Component	IMDG Marine Pollutant
Copper - 7440-50-8	IMDG regulated marine pollutant (Listed in the index, listed under Copper metal powder)

Basel convention on the control of transboundary movements of hazardous wastes and their dispoal

AUS-000169 Version 2 14-Jul-2023 Page 9 / 11

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled
Lead - 7439-92-1	Annex I - Y31	Y31
Antimony - 7440-36-0	Annex I - Y27	Y27

Component	CAS No	OECD HPV	Restriction of Hazardous	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -
			Substances (RoHS)	Qualifying Quantities	Qualifying Quantities
				for Major Accident	for Safety Report
				Notification	Requirements
Tin	7440-31-5	Listed	Not applicable	Not applicable	Not applicable
Lead	7439-92-1	Listed	0.1% (Max. Conc.)	Not applicable	Not applicable
Silver	7440-22-4	Listed	Not applicable	Not applicable	Not applicable
Copper	7440-50-8	Listed	Not applicable	Not applicable	Not applicable
Bismuth	7440-69-9	Not applicable	Not applicable	Not applicable	Not applicable
Antimony	7440-36-0	Listed	Not applicable	Not applicable	Not applicable

Authorisation/Restrictions according to EU REACH

Component	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)
Tin	-	Use restricted. See item 75. (see link for restriction details)	-
Lead	-	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)
Silver	-	Use restricted. See item 75. (see link for restriction details)	-
Copper	-	Use restricted. See item 75. (see link for restriction details)	-
Antimony	-	Use restricted. See item 75. (see link for restriction details)	-

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.

https://echa.europa.eu/authorisation-list

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

https://echa.europa.eu/substances-restricted-under-reach

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air

NZIoC - New Zealand Inventory of Chemicals

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists

Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime

AUS-000169 Version 2 14-Jul-2023 Page 10 / 11

MARPOL - International Convention for the Prevention of Pollution from

NZS 5433:2020 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% WEL - Workplace Exposure Limit

VOC - (Volatile Organic Compound)

DNEL - Derived No Effect Level POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative Dangerous Goods Code

ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail

OECD - Organisation for Economic Co-operation and Development

LC50 - Lethal Concentration 50% ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data **Health Hazards** Calculation method **Environmental hazards** Calculation method

Training Advice

Chemical incident response training.

Revision Date 14-Jul-2023

Revision Summary Update to GHS format.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

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 Safety Data Sheet

AUS-000169 Version 2 14-Jul-2023 Page 11/11