

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : EASY-FLO® 44
Product code : A00000033

1.2. Recommended use and restrictions on use

Recommended use : Alloys for brazing/soldering and other metallurgical processes

1.3. Supplier

Lucas-Milhaupt, Inc.
5656 South Pennsylvania Ave.
Cudahy, WI 53110 - USA
T (414)-769-6000
LM_SDSinfo@lucasmilhaupt.com - www.Lucasmilhaupt.com

1.4. Emergency telephone number

Emergency number : CHEMTREC within the USA and Canada: 1-800-424-9300
CHEMTREC outside the USA and Canada +1 701-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (inhalation:dust,mist) Category 3	H331	Toxic if inhaled.
Germ cell mutagenicity, Category 2	H341	Suspected of causing genetic defects.
Carcinogenicity, Category 1A	H350	May cause cancer.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H331 - Toxic if inhaled.
H341 - Suspected of causing genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention.
P311 - Call a poison center/doctor
P321 - Specific treatment (see supplemental first aid instruction on this label)
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Silver	(CAS-No.) 7440-22-4	43 - 45
Copper	(CAS-No.) 7440-50-8	26 - 28
Cadmium	(CAS-No.) 7440-43-9	14 - 16
Zinc	(CAS-No.) 7440-66-6	11 - 15
Phosphorus	(CAS-No.) 7723-14-0	0.5 - 1.5

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a physician immediately. Call a doctor.
- First-aid measures after skin contact : Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell. Rinse mouth.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Dry powder. Water spray. Foam.
- Unsuitable extinguishing media : Water.

5.2. Specific hazards arising from the chemical

- Fire hazard : Flammable solid.
- Reactivity : The product is non-reactive under normal conditions of use, storage and transport. Flammable solid.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage.
- Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Keep away from ignition sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Silver (7440-22-4)		
ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³ (dust and fume)
OSHA	OSHA PEL (TWA) (mg/m ³)	0.01 mg/m ³
IDLH	US IDLH (mg/m ³)	10 mg/m ³ (dust)
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.01 mg/m ³ (dust)
Cadmium (7440-43-9)		
ACGIH	ACGIH TWA (mg/m ³)	0.01 mg/m ³ 0.002 mg/m ³ (respirable particulate matter)
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (fume) 0.2 mg/m ³ (dust) 5 µg/m ³
OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.3 mg/m ³ (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect-fume) 0.6 mg/m ³ (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect-dust)
IDLH	US IDLH (mg/m ³)	9 mg/m ³ (dust)
Copper (7440-50-8)		
ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³ (fume)
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
IDLH	US IDLH (mg/m ³)	100 mg/m ³ (dust, fume and mist)
NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³ (dust and mist) 0.1 mg/m ³ (fume)
Phosphorus (7723-14-0)		
Not applicable		
Zinc (7440-66-6)		
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (as ZnO)

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.

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Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: White to light yellow metallic luster, various forms.
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Melting point	: 1295 °F
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable. Flammable solid.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Flammable solid.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Oxidizing agent. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Inhalation:dust,mist: Toxic if inhaled.

ATE US (dust,mist)	0.5 mg/l/4h
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Silver (7440-22-4)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg

Cadmium (7440-43-9)

LD50 oral rat	1140 mg/kg
LC50 inhalation rat (mg/l)	25 mg/m ³ (Exposure time: 30 min)
ATE US (oral)	1140 mg/kg bodyweight
ATE US (gases)	100 ppmv/4h
ATE US (vapours)	0.5 mg/l/4h
ATE US (dust,mist)	0.05 mg/l/4h

Zinc (7440-66-6)

LD50 oral rat	630 mg/kg
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Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Suspected of causing genetic defects.
Carcinogenicity : May cause cancer.

Cadmium (7440-43-9)

IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Cadmium (7440-43-9)

STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
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Aspiration hazard : Not classified
Viscosity, kinematic : No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects. Very toxic to aquatic life with long lasting effects.

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Silver (7440-22-4)	
LC50 fish 1	0.00155 - 0.00293 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	0.00024 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.0062 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
Cadmium (7440-43-9)	
LC50 fish 1	0.003 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 1	0.0244 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.006 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
Copper (7440-50-8)	
LC50 fish 1	0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	< 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Phosphorus (7723-14-0)	
LC50 fish 1	0.0017 - 0.0035 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	0.001 - 0.004 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	0.025 - 0.037 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Zinc (7440-66-6)	
LC50 fish 1	2.16 - 3.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.139 - 0.908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.211 - 0.269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Phosphorus (7723-14-0)	
BCF fish 1	< 200

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Phosphorus (7723-14-0)	
1990 Hazardous Air Pollutant (Clean Air Act)	Yes

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

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Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Silver (7440-22-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
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Cadmium (7440-43-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	10 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
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Copper (7440-50-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	5000 lb no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
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Phosphorus (7723-14-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1 lb
Section 302 EPCRA Reportable Quantity (RQ)	1 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb (this material is a reactive solid, the TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)

Zinc (7440-66-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	454 kg no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm
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15.2. International regulations

Silver (7440-22-4)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

Cadmium (7440-43-9)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Copper (7440-50-8)

Listed on the TCSI (Taiwan Chemical Substance Inventory)


Phosphorus (7723-14-0)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

Zinc (7440-66-6)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

 **WARNING:** This product can expose you to Cadmium, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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Component	Carcinogenicity	Developmental toxicity	Reproductive toxicity male	Reproductive toxicity female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Cadmium(7440-43-9)	X	X	X		0.05 µg/day (inhalation)	4.1 µg/day oral

Component	State or local regulations
Silver(7440-22-4)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Cadmium(7440-43-9)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List
Copper(7440-50-8)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Phosphorus(7723-14-0)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List
Zinc(7440-66-6)	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of H-statements:

H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.

NFPA health hazard

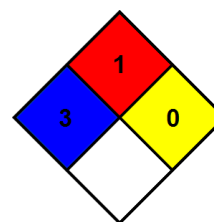
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
* - Chronic (long-term) health effects may result from repeated overexposure

Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

: B
B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

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