SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : EASY-FLO® 45
Product code : A00000011

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) : H330 - Fatal if inhaled.
Category 2
Germ cell mutagenicity : H341 - Suspected of causing genetic defects.
Category 2
Carcinogenicity, Category 1A : H350 - May cause cancer.
Reproductive toxicity, Category 2 : H361 - Suspected of damaging fertility or the unborn child.
Specific target organ toxicity — Repeated exposure, Category 1 : H372 - Causes damage to organs through prolonged or repeated exposure.

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) : H330 - Fatal if inhaled.
H341 - Suspected of causing genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) :
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/vapours/spray.
P264 - Wash hands, forearms and face 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.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P335 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center/doctor.
P314 - Get medical advice/attention if you feel unwell.
2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients
3.1. Substances
Not applicable
3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>(CAS-No.) 7440-22-4</td>
<td>44 - 46</td>
</tr>
<tr>
<td>Cadmium</td>
<td>(CAS-No.) 7440-43-9</td>
<td>23 - 25</td>
</tr>
<tr>
<td>Zinc</td>
<td>(CAS-No.) 7440-66-6</td>
<td>14 - 18</td>
</tr>
<tr>
<td>Copper</td>
<td>(CAS-No.) 7440-50-8</td>
<td>14 - 16</td>
</tr>
</tbody>
</table>

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

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.

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.

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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. 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

Storage conditions: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Material</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>IDLH (mg/m³)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver (7440-22-4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
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<td></td>
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<td>IDLH</td>
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</tr>
<tr>
<td>NIOSH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium (7440-43-9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
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<td></td>
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<tr>
<td>IDLH</td>
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<td></td>
</tr>
<tr>
<td>NIOSH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper (7440-50-8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>IDLH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIOSH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc (7440-66-6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White to light yellow metallic luster, various forms.</td>
</tr>
<tr>
<td>Colour</td>
<td>Mixture contains one or more component(s) which have the following colour(s): red Grey</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>1145 °F</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.
10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials


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: Fatal if inhaled.

| ATE US (dust,mist) | 0.208 mg/l/4h |

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/m³ (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

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 : Causes damage to organs through prolonged or repeated exposure.

Cadmium (7440-43-9)

STOT-repeated exposure Causes damage to organs through prolonged or repeated exposure.

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.

Silver (7440-22-4)

LC50 fish 1 0.00155 - 0.00293 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Silver (7440-22-4)
- 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])

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
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

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

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 Q: 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

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 Q: 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

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 Q: 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

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 Q: 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

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)

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogenicity</th>
<th>Developmental toxicity</th>
<th>Reproductive toxicity male</th>
<th>Reproductive toxicity female</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium(7440-43-9)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>0.05 µg/day (inhalation)</td>
<td>4.1 µg/day oral</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver(7440-22-4)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know)</td>
</tr>
<tr>
<td>Cadmium(7440-43-9)</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know)</td>
</tr>
</tbody>
</table>
## Component

### 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

### 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

### Full text of H-statements:

<table>
<thead>
<tr>
<th>H-Statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H330</td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H361</td>
<td>Suspected of damaging fertility or the unborn child.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

### 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 will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

### 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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Lucas-Milhaupt, Inc.