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) : H331 Toxic if inhaled.
Category 3
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

06/25/2018 EN (English)
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>43 - 45</td>
</tr>
<tr>
<td>Copper</td>
<td>(CAS-No.) 7440-50-8</td>
<td>26 - 28</td>
</tr>
<tr>
<td>Cadmium</td>
<td>(CAS-No.) 7440-43-9</td>
<td>14 - 16</td>
</tr>
<tr>
<td>Zinc</td>
<td>(CAS-No.) 7440-66-6</td>
<td>11 - 15</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>(CAS-No.) 7723-14-0</td>
<td>0.5 - 1.5</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
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.
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.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>OSHA PEL (Ceiling) (mg/m³)</th>
<th>IDLH (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver (7440-22-4)</td>
<td>0.1 mg/m³ (dust and fume)</td>
<td>0.01 mg/m³</td>
<td>10 mg/m³ (dust)</td>
<td>0.01 mg/m³ (dust)</td>
<td>10 mg/m³ (dust)</td>
</tr>
<tr>
<td>Cadmium (7440-43-9)</td>
<td>0.01 mg/m³</td>
<td>0.002 mg/m³ (respirable particulate matter)</td>
<td>0.1 mg/m³ (fume)</td>
<td>0.2 mg/m³ (dust)</td>
<td>5 µg/m³</td>
</tr>
<tr>
<td>Copper (7440-50-8)</td>
<td>0.2 mg/m³ (fume)</td>
<td>0.1 mg/m³ (fume)</td>
<td>1 mg/m³ (dust and mist)</td>
<td>100 mg/m³ (dust, fume and mist)</td>
<td>1 mg/m³ (dust and mist)</td>
</tr>
<tr>
<td>Phosphorus (7723-14-0)</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc (7440-66-6)</td>
<td>2 mg/m³ (as ZnO)</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>No data available</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>1295 °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, Flammable solid.</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. 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.
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**


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

<table>
<thead>
<tr>
<th>Acute toxicity (oral)</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Inhalation: dust, mist: Toxic if inhaled.</td>
</tr>
</tbody>
</table>

**ATE US (dust, mist)**

- 0.5 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)**

<table>
<thead>
<tr>
<th>IARC group</th>
<th>1 - Carcinogenic to humans</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Toxicity Program (NTP) Status</td>
<td>Known Human Carcinogens</td>
</tr>
<tr>
<td>In OSHA Hazard Communication Carcinogen list</td>
<td>Yes</td>
</tr>
<tr>
<td>In OSHA Specifically Regulated Carcinogen list</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**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.

**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])
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])

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
## 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

#### 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

#### 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

#### 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

### 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.
### Component

<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>

### Component

<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) List</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) List</td>
</tr>
<tr>
<td>Copper(7440-50-8)</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) List</td>
</tr>
<tr>
<td>Phosphorus(7723-14-0)</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) List</td>
</tr>
<tr>
<td>Zinc(7440-66-6)</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) List</td>
</tr>
</tbody>
</table>

### SECTION 16: Other information

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
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