

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture  
Trade name : CDA 681  
Product code : A00000368

### 1.2. Recommended use and restrictions on use

No additional information available

### 1.3. Supplier

Lucas-Milhaupt, Inc.  
5656 South Pennsylvania Ave.  
Cudahy, WI 53110 - USA  
T (414)-769-6000  
[LM\\_SDSinfo@lucasmilhaupt.com](mailto:LM_SDSinfo@lucasmilhaupt.com) - [www.Lucasmilhaupt.com](http://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

Not classified

### 2.2. GHS Label elements, including precautionary statements

#### GHS-US labelling

No labelling applicable

### 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

Name	Product identifier	%
Copper	(CAS-No.) 7440-50-8	56 - 60
Zinc	(CAS-No.) 7440-66-6	40.2 - 40.2
Iron	(CAS-No.) 7439-89-6	0.25 - 1.2
Tin	(CAS-No.) 7440-31-5	0.8 - 1.1
Manganese	(CAS-No.) 7439-96-5	0.01 - 0.5
Silicon	(CAS-No.) 7440-21-3	0.04 - 0.15

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 poison center or a doctor if you feel unwell.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
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

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### 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 : Ventilate spillage area.

#### 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.

### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.  
Methods for cleaning up : Mechanically recover the product.  
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.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Copper (7440-50-8)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (fume)
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
IDLH	US IDLH (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (dust, fume and mist)
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0.1 mg/m <sup>3</sup> (fume)
Iron (7439-89-6)		
Not applicable		
Manganese (7439-96-5)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup> (respirable particulate matter) 0.1 mg/m <sup>3</sup> (inhalable particulate matter)
OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (fume)

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<b>Manganese (7439-96-5)</b>		
IDLH	US IDLH (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (fume)
NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
<b>Silicon (7440-21-3)</b>		
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable fraction)
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable dust)
<b>Tin (7440-31-5)</b>		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
IDLH	US IDLH (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
<b>Zinc (7440-66-6)</b>		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (as ZnO)

### 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 insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Colour : No data available  
Odour : No data available  
Odour threshold : No data available  
pH : No data available  
Melting point : No data available  
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.  
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

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Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
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.

### 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

No additional information available

### 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 : Not classified

Iron (7439-89-6)	
LD50 oral rat	30 g/kg
ATE US (oral)	984 mg/kg bodyweight
Manganese (7439-96-5)	
LD50 oral rat	9 g/kg
ATE US (oral)	9000 mg/kg bodyweight
Silicon (7440-21-3)	
LD50 oral rat	3160 mg/kg
ATE US (oral)	3160 mg/kg bodyweight
Tin (7440-31-5)	
LD50 oral rat	700 mg/kg
ATE US (oral)	700 mg/kg bodyweight
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	: Not classified
Carcinogenicity	: Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

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Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Very toxic to aquatic life.

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 applicable

#### Transportation of Dangerous Goods

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### 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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##### Iron (7439-89-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Manganese (7439-96-5)

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

##### Silicon (7440-21-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Tin (7440-31-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### 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

##### Copper (7440-50-8)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

##### Iron (7439-89-6)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

##### Manganese (7439-96-5)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

##### Silicon (7440-21-3)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

##### Tin (7440-31-5)

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

##### 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

##### Manganese (7439-96-5)

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

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### Silicon (7440-21-3)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

### Tin (7440-31-5)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance 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

SDS US (GHS HazCom 2012)

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