

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017



## 1) IDENTIFICATION

<b>Product Identifier</b>	Percon Alloy
<b>Other Means of Identification</b>	
<b>SDS Number</b>	FAWSDS-1
<b>Synonyms</b>	High Copper Alloy, Percon 14, Percon 15, Percon 17, Percon 19, Percon 24, Percon 28
<b>Recommended Use</b>	None Known
<b>Recommended Restrictions</b>	None Known
<b>Manufacturer/Importer/Supplier/Distributor Information</b>	
<b>Manufacturer/Supplier</b>	Fisk Alloy, Inc. PO Box 26 10 Thomas Road Hawthorne, NJ 07507, USA
<b>General Assistance</b>	Call Fisk Alloy: 973 825 8500
<b>Email</b>	<a href="mailto:info@fiskalloy.com">info@fiskalloy.com</a>
<b>Contact Person</b>	None Known
<b>Emergency Telephone</b>	<b>For all transportation accidents, call Chemtrec at 800 424 9300</b>

## 2) HAZARD(S) IDENTIFICATION

<b>Classification of Substance or Mixture</b>	Not Classified
<b>GHS-US Labeling</b>	No Labeling Applicable

### Hazards Not Otherwise Classified (HNOC)

This product is present in a massive form as an alloy. It does not present the same hazards when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions.

Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

## 3) COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE NAME	CAS NUMBER	PERCENT
Copper	7440-50-8	95.0-99.9
Iron	7439-89-6	0.0-1.5
Chromium (Non-Hexavalent)	7440-47-3	0.0-1.0
Tin	7440-31-5	0.0-0.6
Magnesium	7439-95-4	0.0-0.5

## 4) FIRST AID MEASURES

### Inhalation

When symptoms occur go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

### Skin Contact

Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

## Eye Contact

Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

## Ingestion

Ingestion is unlikely due to physical state. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

## Most Important Symptoms/Effects, Acute and Delayed

**Inhalation:** Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

**Skin Contact:** May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

**Eye Contact:** Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

## Chronic Symptoms

**Copper:** Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; Discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure.

**Iron:** Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms; otherwise iron oxide is not hazardous.

**Chromium:** Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer have been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion.

**Tin:** Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis.

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

## Indication of Immediate Medical Attention and Special Treatment Needed

In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

## General Information

If exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

## 5) FIRE FIGHTING MEASURES

### Suitable Extinguishing Media

For localized powder fires, smother with dry sand, dry dolomite, sodium chloride or soda ash. Use fire-extinguishing media appropriate to fight surrounding fire.

### Unsuitable Extinguishing Media

Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use water when molten material is involved, may react violently or explosively on contact with water.

### Specific Hazards Arising from the Chemical

In molten state: reacts violently with water (moisture). Dust may cause an ignitable and/or an explosive atmosphere.

### Special Protective Equipment and Precautions for Firefighters

*Precautionary Measures Fire:* Under fire conditions, hazardous fumes will be present.

*Firefighting Instructions:* Exercise caution when fighting any chemical fire.

*Protection During Firefighting:* Do not enter fire area without proper protective equipment, including respiratory protection.

## 6) ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

*General Measures:* Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product. Avoid all eye and skin contact and do not breathe dust, fumes, and vapors.

*For Non-Emergency Personnel:* Use appropriate personal protection equipment (PPE). Evacuate unnecessary personnel.

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

**For Emergency Personnel:** Equip cleanup crew with proper protection. Ventilate area.

## Environmental Precautions

Prevent entry to sewers and public waters.

## Methods and Materials for Containment and Clean Up

Contain and collect as any solid. Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

## 7) HANDLING AND STORAGE

### Precautions for Safe Handling

May generate flammable/explosive dusts or turnings when brushed, machined or ground. Use care during processing to minimize generation of dust. Where excessive dust may result, use approved respiratory protection equipment. Heating of product can release toxic or irritating fumes; ensure proper ventilation is employed, proper precautions are enforced, and applicable regulations are followed. Inhalation of fumes may cause metal fume fever.

### Conditions for Safe Storage, Including Any Incompatibilities

**Storage Conditions:** Store in a dry, cool and well-ventilated place.

**Incompatible Materials:** Strong acids, strong bases and strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

## 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational Exposure Limits

COUNTRY	TYPE	COPPER Value (mg/m <sup>3</sup> )	CHROMIUM, NON- HEXAVALENT Value (mg/m <sup>3</sup> )	TIN Value (mg/m <sup>3</sup> )
Belgium	TWA	0.2 (a), 1 (b,i)	0.5	2
	STEL	—	—	—
Brazil	—	—	—	—

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

Canada-Alberta	TWA STEL	0.2 (a), 1 (b,i) 0.6 (a), 2 (b,i)	0.5 1.5	2 4
Canada-BC	TWA STEL	1 (b,i), 0.2 (a) —	0.5 —	2 —
Canada-Ontario	TWA	—	—	2
Canada-Quebec	TWA	0.2 (j), 1 (b,k)	0.5	2
China	TWA STEL	1 (b), 0.2 (a) —	— —	— —
Denmark	TWA STEL	1 (b) —	0.5 —	— —
France	TWA STEL	1 (b,i), 0.2 (a) 2 (b,i)	2 —	— —
Germany	TWA	—	2	—
Hong Kong	TWA	0.2 (a), 1 (b,i)	0.5	—
India	TWA STEL	0.2 (a) —	— —	— —
Italy	TWA	—	—	—
Japan	TWA	—	0.5	—
Korea	TWA STEL	1 (b,i), 0.1 (a,f) 2 (b,i)	0.5 —	2 —
Malaysia	TWA	0.2 (a), 1 (b,i)	0.5	2
Mexico	TWA STEL	0.2 (a), 1 (b,k) 2 (a,b,k)	0.5 —	— —
Poland	TWA STEL	0.2 —	0.5 —	2 —
Portugal	—	—	—	—
Russia	TWA	1/0.5 (MAC)	—	—
Singapore	TWA STEL	0.2 (a), 1 (b,i) —	0.5 —	2 —
Sweden	LLV	1 (c), 0.2 (f)	0.5	—
Taiwan R. O. C.	TWA	1 (b,i)	1	2
United Kingdom	TWA STEL	0.2 (a), 1 (b,i) 2 (b,i)	0.5 —	— —

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

USA ACGIH	TWA	—	—	—
USA OSHA	TWA	1	1	2
USA NIOSH	TWA STEL	1 —	0.5 —	2 —

**a**-fume, **b**-dust, **c**-total dust, **d**-inhalable fraction, **e**-inhalable dust, **f**-respirable dust, **g**-inhalable fume, **h**-respirable fume, **i**-mist, **j**-smoke, **k**-fog

## Appropriate Engineering Controls

Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

## Individual Protection Measures, Such as Personal Protective Equipment



### Eye/Face Protection

Chemical goggles or safety glasses.

### Skin Protection

**Hand Protection:** Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

**Other:** Chemically resistant materials and fabrics. With molten material wear thermally protective clothing. If generating a dust, wash thoroughly after handling, especially before eating, drinking, or smoking. Wash contaminated clothing before reuse.

### Respiratory Protection

Respiratory protection not normally needed. If dusting occurs or fumes are generated above the established occupational exposure limits, use a NIOSH-approved half-face or full-face respirator equipped with High Efficiency Particulate (HEPA) filter cartridges.

### General Hygiene Considerations

Do not eat, drink, or smoke while using this product in dust form.

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

## 9) PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Red Metallic
<b>Physical State</b>	Solid
<b>Form</b>	Solid
<b>Color</b>	Not Available
<b>Odor</b>	None
<b>Odor Threshold</b>	Not Available
<b>pH</b>	Not Applicable
<b>Melting Point/Freezing Point</b>	L: 1976-1987 °F (Melting Point) S: 1886-1969 °F
<b>Initial Boiling Point and Boiling Range</b>	Not Available
<b>Flash Point</b>	Not Applicable
<b>Evaporation Rate</b>	Not Available
<b>Flammability (Solid, Gas)</b>	Not Applicable
<b>Upper/Lower Flammability or Explosive Limits</b>	
<b>Flammability Limit – Lower (%)</b>	Not Available
<b>Flammability Limit – Upper (%)</b>	Not Available
<b>Explosive Limit – Lower (%)</b>	Not Applicable
<b>Explosive Limit – Upper (%)</b>	Not Applicable
<b>Vapor Pressure</b>	Not Applicable
<b>Vapor Density</b>	Not Applicable
<b>Relative Density (Specific Gravity)</b>	8.94 - 8.94
<b>Solubility(ies)</b>	
<b>Solubility (Water)</b>	Negligible
<b>Partition Coefficient (N-Octanol/Water)</b>	Not Available
<b>Auto-Ignition Temperature</b>	Not Applicable



# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

**Decomposition Temperature**

Not Applicable

**Viscosity**

Not Applicable

## 10) STABILITY AND REACTIVITY

### Reactivity

Hazardous reactions will not occur under normal conditions.

### Chemical Stability

Stable under recommended storage conditions and stable in solid form.

### Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

### Conditions to Avoid

Avoid contact with carbon monoxide, particularly at temperatures between 50°C and 300°C, to prevent formation of nickel carbonyl which is toxic and a carcinogen.

### Incompatible Materials

Acetylene, chlorine.

### Hazardous Decomposition Products

Inhalation of fumes may cause metal fume fever. Oxides of iron and carbon.

## 11) TOXICOLOGICAL INFORMATION

### Information on Likely Routes of Exposure

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Inhalation:** Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

**Skin Contact:** May cause an allergic skin reaction. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

**Eye Contact:** Dust may cause mechanical irritation to eyes.

**Chronic Symptoms:** In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material:

**Iron:** Inhalation of iron oxide fumes undergoing decomposition may cause irritation and flu-like symptoms, otherwise iron oxide is not hazardous.

## Numerical Measures of Toxicity

COMPONENT	TEST	SPECIES	TEST RESULT
Copper (CAS#7440-50-8)	Inhalation LC <sub>50</sub>	Rat	0.733 mg/L
Iron (CAS#7439-89-6)	Oral LD <sub>50</sub>	Rat	30 g/kg
Chromium (CAS#7440-47-3)	Oral LD <sub>50</sub>	Rat	> 5000 mg/kg
Tin (CAS#7440-31-5)	Oral LD <sub>50</sub>	Rat	700 mg/kg

**Skin Corrosion/Irritation** Not Classified

**Serious Eye Damage/Eye Irritation** Not Classified

### Respiratory or Skin Sensitization

**Respiratory Sensitization** Not Classified

**Skin Sensitization** Not Classified

### Germ Cell Mutagenicity

Not Classified. This product is not known or reported to be mutagenic.

### Carcinogenicity

Not Classified. This product is not known or reported to be carcinogenic.

### Reproductive Toxicity

Not Classified. This product is not known or reported to cause reproductive or developmental effects.

**Specific Target Organ Toxicity – Single Exposure** Not Classified

**Specific Target Organ Toxicity – Repeated Exposure** Not Classified

**Aspiration Hazard** Not Classified

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

## 12) ECOLOGICAL INFORMATION

### Numerical Measures of Toxicity

COMPONENT	TEST	SPECIES	TEST RESULTS
Copper (CAS#7440-50-8)	Fish LC <sub>50</sub>	Oncorhynchus Mykiss ( <i>Salmo Gairdneri</i> )	0.017 mg/l,96 Hours
	Crustacea NOEC	Water Flea ( <i>Daphnia Magna</i> )	0.002 mg/l,21 Days
	AlgaeEC <sub>50</sub>	Korshikov ( <i>Selenastrum Capricornutum</i> )	0.085 mg/l,3 Weeks
Iron (CAS#7439-89-6)	Fish LC <sub>50</sub>	Zebrafish ( <i>Danio Rerio</i> )	> 10000 mg/l,96 Hours
	Crustacea LC <sub>50</sub>	Water Flea ( <i>Daphnia Magna</i> )	9.6 mg/l,48 Hours
Chromium (CAS#7440-47-3)	Fish LC <sub>50</sub>	Mozambique Tilapia ( <i>Oreochromis Mossambicus</i> )	139.5 mg/l,96 Hours
	Crustacea LC <sub>50</sub>	Ceriodaphnia Reticulate	0.045 mg/l,48 Hours
	AlgaeEC <sub>50</sub>	Green Algae ( <i>Dunaliella Tertiolecta</i> )	17.8 mg/l,72 Hours
Tin (CAS#7440-31-5)	Fish LC <sub>50</sub>	Fathead Minnows ( <i>Pimephales Promelas</i> )	0.01240 mg/l,96 Hours
	Algae NOEC	Marine Diatom	0.2 mg/l,72 Hours

**Persistence and Degradability** No Data Available

**Bioaccumulative Potential** No Data Available

**Mobility in Soil** No Data Available

### Other Adverse Effects

No known significant effects or critical hazards.

## 13) DISPOSAL CONSIDERATIONS

### Disposal Instructions

Dispose of in accordance with local regulations. Do not contaminate ponds, waterways or ditches with chemical or used containers.

**Contaminated Packaging** None Known

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

## 14) TRANSPORT INFORMATION

<b>In Accordance with DOT</b>	Not regulated for transport
<b>In Accordance with IMDG</b>	Not regulated for transport
<b>In Accordance with IATA</b>	Not regulated for transport

## 15) REGULATORY INFORMATION

### US Federal Regulations

Substance is on the U.S. EPA TSCA Inventory List.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None of the components in this product are listed.

### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

<b>Copper (CAS#7440-50-8)</b>	Listed
<b>Chromium (CAS# 7440-47-3)</b>	Listed
<b>Tin (CAS#7440-31-5)</b>	Listed

### CERCLA Hazardous Substance List (40 CFR 302.4)

<b>Copper (CAS#7440-50-8)</b>	Listed
<b>Chromium (CAS# 7440-47-3)</b>	Listed

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard Categories

<b>Immediate Hazard</b>	No
<b>Delayed Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Pressure Hazard</b>	No
<b>Reactivity Hazard</b>	No

**SARA 302 Extremely Hazardous Substance** No

**SARA 311/312 Hazardous Chemical** No

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

## SARA 313 (TRI Reporting)

SUBSTANCE NAME	CAS NUMBER	% BY WEIGHT
Copper	7440-50-8	95.0-99.9
Chromium (Hon-Hexavalent)	7440-47-3	0.0-1.0

## Other Federal Regulations

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** None of the components in this product are listed.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):** None of the components in this product are listed.

**Safe Drinking Water Act (SDWA):** None of the components in this product are listed.

## US State Regulations

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** None of the components in this product are listed.

**US. Massachusetts RTK - Substance List:** Copper (CAS#7440-50-8, Chromium (CAS# 7440-47-3), Tin (CAS#7440-31-5), Magnesium (CAS#7439-95-4)

**US. New Jersey Worker and Community Right-to-Know Act:** Copper (CAS#7440-50-8), Chromium (CAS# 7440-47-3), Tin (CAS#7440-31-5), Magnesium (CAS#7439-95-4)

**US. Pennsylvania Worker and Community Right-to-Know Law:** Copper (CAS#7440-50-8), Chromium (CAS# 7440-47-3), Tin (CAS#7440-31-5), Magnesium (CAS#7439-95-4)

**US. California Proposition 65:** None of the components in this product are listed.

## Canada Regulations

This substance has not been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR).

## International Inventories

COUNTRY(S) OR REGION	INVENTORY NAME	ON INVENTORY (YES/NO)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemical List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
US & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\* A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16) ADDITIONAL INFORMATION

<b>Issue Date</b>	—
<b>Revision Date</b>	11-09-2017
<b>Version #</b>	4

### References

**ACGIH:** Documentation of the Threshold Limit Values and Biological Exposure indices

**ECHA:** European Chemicals Agency

**HSDB:** Hazardous Substances Data Bank

**GESTIS:** Information System on Hazardous Substances of the German Social Accident Insurance

**IARC:** International Agency for Research on Cancer

**NIOSH:** The National Institute for Occupational Safety and Health

**NTP:** National Toxicology Program

# Safety Data Sheet FAWSDS-1

Revision Date: 11-09-2017

**NLM:** Hazardous Substances Data Base

**OECD:** Organization for Economic Co-operation and Development

**OSHA:** Occupational Safety and Health Administration

## **Disclaimer**

The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use, the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.