

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>FurseWELD Exothermic Welding Powder (Starter)</b>
<b>Other means of identification</b>	
<b>SDS number</b>	SDS-00013
<b>Product code</b>	15P10, 25P10, 32P10, 45P10, 65P10, 90P10, 115P10, 150P10, 200P10, 250P10, 15BKB, 25BKB, 115BKB, 150BKB, 200BKB, 250BKB, 32BKB, 45BKB, 65BKB, 90BKB
<b>Recommended use</b>	For starting the reaction for exothermic copper to copper and copper to steel joints.
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Company name</b>	Thomas & Betts Corporation
<b>Address</b>	8155 T & B Boulevard Memphis, TN 38125 USA
<b>Telephone</b>	901-252-5000 ext.8324
<b>E-mail</b>	Not available.
<b>Emergency phone number</b>	For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night +1 703-741-5970

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable solids	Category 1
<b>Health hazards</b>	Not classified.	
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Flammable solid. Very toxic to aquatic life with long lasting effects.
<b>Precautionary statement</b>	

<b>Prevention</b>	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Avoid release to the environment. Wear protective gloves/eye protection/face protection.
<b>Response</b>	In case of fire: Use appropriate media to extinguish. Collect spillage.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** Exposure to hot material may cause thermal burns.

**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Aluminium	7429-90-5	<=45

Copper oxide	1317-38-0	<= 25
Dicopper oxide	1317-39-1	<= 25
Iron oxide	1317-61-9	<= 20

**Composition comments** The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

#### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Dusts may irritate the respiratory tract, skin and eyes. Exposure to hot material may cause thermal burns.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray, fog (flooding amounts). Dry sand.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO2).
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed. Fine particles may form explosive mixtures with air.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Flammable solid.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk.  Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Minimize dust generation and accumulation. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	PEL	5 mg/m <sup>3</sup>	Respirable dust.
		15 mg/m <sup>3</sup>	Total dust.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Copper oxide (CAS 1317-38-0)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
Dicopper oxide (CAS 1317-39-1)	TWA	0.2 mg/m <sup>3</sup>	Fume.
		1 mg/m <sup>3</sup>	Dust and mist.
		0.2 mg/m <sup>3</sup>	Fume.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m <sup>3</sup>	Respirable.
		5 mg/m <sup>3</sup>	Welding fume or pyrophoric powder.
		10 mg/m <sup>3</sup>	Total
Copper oxide (CAS 1317-38-0)	TWA	1 mg/m <sup>3</sup>	Dust.
Dicopper oxide (CAS 1317-39-1)	TWA	1 mg/m <sup>3</sup>	Dust and mist.

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles).

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

##### Skin protection

##### Other

Wear suitable protective clothing.

#### Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties****Appearance**

<b>Physical state</b>	Solid.
<b>Form</b>	Fine granules.
<b>Color</b>	Gray.

**Odor** Odorless.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Flammable solid.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** Not applicable.

**Vapor density** Not applicable.

**Relative density** 2.5

**Solubility(ies)**

**Solubility (water)** Insoluble in water.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** > 1742 °F (> 950 °C)

**Decomposition temperature** Not available.

**Viscosity** Not applicable.

**Other information**

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

**10. Stability and reactivity**

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

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Conditions to avoid** Heat, flames and sparks. Contact with incompatible materials. Dust may form explosive mixture with air.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** No hazardous decomposition products are known.

**11. Toxicological information****Information on likely routes of exposure**

**Inhalation** Dust may irritate respiratory system. Prolonged inhalation may be harmful.

**Skin contact** Dust or powder may irritate the skin. Exposure to hot material may cause thermal burns.

<b>Eye contact</b>	Dust may irritate the eyes. Exposure to hot material may cause thermal burns.
<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Dusts may irritate the respiratory tract, skin and eyes.

**Information on toxicological effects**

**Acute toxicity**

Components	Species	Test Results
Dicopper oxide (CAS 1317-39-1)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg, 24 hours
<i>Inhalation</i>		
LC50	Rat	2.92 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	0.47 g/kg

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**NTP Report on Carcinogens**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Reproductive toxicity** This product is not expected 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 an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

**12. Ecological information**

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**13. Disposal considerations**

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN3089
<b>UN proper shipping name</b>	Metal powders, flammable, n.o.s. (Aluminium)
<b>Transport hazard class(es)</b>	
<b>Class</b>	4.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	4.1
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	IB8, IP2, IP4, T3, TP33
<b>Packaging exceptions</b>	151
<b>Packaging non bulk</b>	212
<b>Packaging bulk</b>	240

### IATA

<b>UN number</b>	UN3089
<b>UN proper shipping name</b>	Metal powder, flammable, n.o.s. (Aluminium)
<b>Transport hazard class(es)</b>	
<b>Class</b>	4.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	4.1
<b>Packing group</b>	II
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	3L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<b>UN number</b>	UN3089
<b>UN proper shipping name</b>	METAL POWDER, FLAMMABLE, N.O.S. (Aluminium)
<b>Transport hazard class(es)</b>	
<b>Class</b>	4.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	4.1
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-G, S-G
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

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

Not regulated.

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

Copper oxide (CAS 1317-38-0)	LISTED
Dicopper oxide (CAS 1317-39-1)	LISTED

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

**Hazard categories**

- Immediate Hazard - No
- Delayed Hazard - No
- Fire Hazard - Yes
- Pressure Hazard - No
- Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**      Yes

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Aluminium	7429-90-5	<=45
Copper oxide	1317-38-0	<= 25
Dicopper oxide	1317-39-1	<= 25

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**      Not regulated.

**US state regulations****US. Massachusetts RTK - Substance List**

Aluminium (CAS 7429-90-5)

**US. New Jersey Worker and Community Right-to-Know Act**

Aluminium (CAS 7429-90-5)

Copper oxide (CAS 1317-38-0)

Dicopper oxide (CAS 1317-39-1)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Aluminium (CAS 7429-90-5)

**US. Rhode Island RTK**

Aluminium (CAS 7429-90-5)

Copper oxide (CAS 1317-38-0)

Dicopper oxide (CAS 1317-39-1)

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**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
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & 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. Other information, including date of preparation or last revision

**Issue date** 30-November-2015

**Revision date** 04-May-2016

**Revision #** 2

**HMIS® ratings** Health: 0  
Flammability: 3  
Physical hazard: 0

**NFPA ratings**



**Disclaimer**

Thomas & Betts Corporation cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.