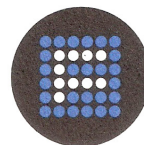


# SAFETY DATA SHEET



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## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

### Product identifier

**Product name:** Slago

### Other means of identification

**Product code:** 493

### Recommended use of the chemical and restrictions on use

**Recommended use:** Dross removing flux

### Details of the supplier of the safety data sheet

**Manufacturer:** Force Industries Division.  
28 Industrial Blvd. Paoli, PA 19301.

### Emergency Telephone number

For hazardous material incidents only, call CHEMTREC Emergency Response Number:  
1-800-424-9300.

For all other inquiries about this product, call Force Industries Division at 610-647-3575.

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute oral toxicity (Category 4)

Skin corrosion /irritation (Category 2)

Serious eye damage/eye irritation (Category 2/2A)

Acute aquatic toxicity (Category 3)

Specific Target Organ toxicity – repeated exposure (Category 2) - Respiratory

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

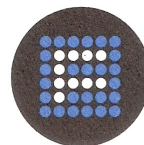
#### Emergency overview

**Appearance:** Reddish Brown  
**Physical state:** Granular Powder  
**Odor:** None

**DANGER**



# SAFETY DATA SHEET



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## Hazard statement(s)

H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.  
H373: May cause damage to organs through prolonged or repeated exposure.  
H402: Harmful to aquatic life.

## Precautionary statement(s)

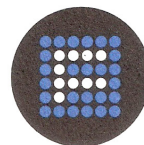
P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P264: Wash skin thoroughly after handling.  
P273: Avoid release to the environment.  
P280: Wear eye protection/ face protection.  
P281: Use personal protective equipment as required.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Contact a physician.  
P301+P312+P330+P331: IF SWALLOWED: Call a POISON CENTER immediately and rinse mouth. Do NOT induce vomiting.  
P308 + P313: IF exposed or concerned: Get medical advice/ attention.  
P337+P313: If eye irritation persists: Get medical advice/ attention.  
P405: Store locked up.  
P501: Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS –none.

### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>	<u>EINECS No.</u>	<u>Weight %</u>
<b>Ammonium Chloride</b>	<b>12125-02-9</b>	<b>235-186-4</b>	<b>70 - 90</b>
<b>Sodium tetraborate</b>	<b>1330-43-4</b>	<b>215-540-4</b>	<b>0 - 10</b>
<b>Stannous chloride</b>	<b>7772-99-8</b>	<b>231-868-0</b>	<b>0 - 10</b>
<b>Modified rosin ester</b>	<b>65997-05-9</b>	<b>500-163-2</b>	<b>10 - 20</b>
<b>Iron oxide</b>	<b>1309-37-1</b>	<b>215-168-2</b>	<b>0 - 10</b>

Others, if any, are non-hazardous and claimed as trade secret.



## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### **If inhaled**

If inhaled, remove person to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Call a POISON CENTER or physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

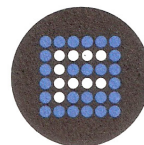
Borane/boron oxides

### 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

### 5.4 Further information

No data available.



## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas.  
Ensure adequate ventilation.  
Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive.  
Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### 7.3 Specific end use(s)

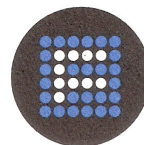
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Ammonium Chloride	12125-02-9	TWA	10 mg/m <sup>3</sup> (as fume)	ACGIH Threshold Limit Values (TLV)
Sodium tetraborate	1330-43-4	TWA	2 mg/m <sup>3</sup>	ACGIH Threshold Limit Values (TLV)
Stannous chloride	7772-99-8	TWA	2 mg/m <sup>3</sup>	ACGIH Threshold Limit Values (TLV)



Modified rosin ester	65997-05-9	TWA	10mg/m <sup>3</sup> (inhalable dust)	ACGIH Threshold Limit Values (TLV)
Iron oxide	1309-37-1	TWA	5 mg/m <sup>3</sup>	ACGIH Threshold Limit Values (TLV)

## 8.2 Exposure controls

### Appropriate engineering controls

General industrial hygiene practice.

### Personal protective equipment

#### Eye/face protection

Safety glasses with side-shields. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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## Control of environmental exposure

Do not let product enter drains. Discharge into the environment must be avoided.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Physical state:</b>	Granular powder
<b>Odor:</b>	None
<b>Color:</b>	Reddish brown
<b>Flash point:</b>	None
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Specific gravity:</b>	1.48
<b>Water solubility:</b>	Moderate

### 9.2 Other safety information

No other data

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Avoid moisture.

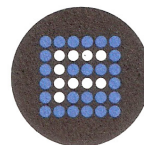
### 10.5 Incompatible materials

Potassium, Acid anhydrides, Strong acids

### 10.6 Hazardous decomposition products

Other decomposition products – no reactivity

No dangerous reaction known under conditions of normal use



## SECTION 11: TOXICOLOGICAL INFORMATION

**Component toxicity**

Components	LD50/Rabbit (Dermal)	LD50/Oral/Rat
Sodium tetraborate	2,000 mg /kg	2,600 mg/kg
Stannous chloride	No data available	700 mg/kg
Ammonium Chloride	>2000 mg/kg	1410 mg/kg
Modified rosin ester	No data available	>5000 mg/kg

**Reproductive toxicity**

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

Causes severe eye irritation or eye burns.

**Respiratory or skin sensitization**

Prolonged contact with skin can cause burning or dermatitis.

**Germ cell mutagenicity**

No data available

**Chronic Toxicity and Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Carcinogenicity:**

No data available

**Developmental Toxicity**

Stannous chloride can be toxic to blood, kidneys, lungs, liver, upper respiratory tract, and skin. Repeated or prolonged exposure to stannous chloride can produce target organ damage. Repeated eye exposure can produce serious eye irritation. Repeated skin exposure can produce dermatitis. Repeated inhalation of dust can produce respiratory irritation or lung damage.

**Reproductive Toxicity**

May have adverse reproductive effects based on stannous chloride

**Genetic Toxicology**

May affect genetic material based on stannous chloride.

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## **Specific target organ toxicity - single exposure**

No data available

## **Specific target organ toxicity - repeated exposure**

No data available

## **Aspiration hazard**

No data available

## **SECTION 12: ECOLOGICAL INFORMATION**

### **12. ECOLOGICAL INFORMATION**

#### **12.1 Toxicity**

Toxicity to fish

LC50 – *Prosopium williamsoni* – 46.27 mg/l – 96 h

LC50 – *Ptychocheilus Lucius* – 279 mg/l – 96 h

LC50 - *Lepomis macrochirus* (Bluegill) - > 1,021 mg/l - 96 h

LC50 - *Limanda limanda* - 74 mg/l - 96 h

EC50 – *Chlorella vulgaris* – 1300 mg/l – 5 day (calculated)

Toxicity to daphnia and other aquatic invertebrates

LC50 - *Daphnia magna* (Water flea) - 53.2 mg/l - 21 d

EC50 - *Daphnia magna* (Water flea) – 136.6 mg/l - 48 h.

#### **12.2 Persistence and degradability**

No data available

#### **12.3 Bio-accumulative potential**

No data available

#### **12.4 Mobility in soil**

No data available

#### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### **12.6 Other adverse effects**

No data available

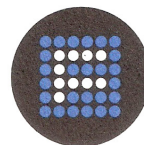
## **SECTION 13: DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

Dispose of in accordance to local, regional, state, and international regulations.



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**Contaminated packaging**

Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

**U.S. Department of Transportation Ground (49CFR)**

Not dangerous goods

**International Air Transportation (ICAO/IATA):**

Not dangerous goods

**International Maritime Organization (IMO/IMDG):**

Not dangerous goods

## SECTION 15: REGULATORY INFORMATION

**International Inventories**

**USA (TSCA):** Complies

**Federal Regulations**

**SARA Title III 313 Reportable Substances**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA Title III Section 311/312 Hazard Categories:**

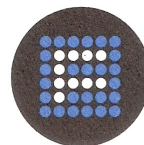
Acute Health Hazard

**State Regulations (RTK)**

Massachusetts Right To Know Components

Component	CAS No.
Sodium tetraborate	1330-43-4
Stannous chloride	7772-99-8

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## Pennsylvania Right to Know Components

<b>Component</b>	<b>CAS No.</b>
Sodium tetraborate	1330-43-4
Ammonium chloride	12125-02-9
Stannous chloride	7772-99-8
Iron oxide	1309-37-1

## New Jersey Right to Know Components

<b>Component</b>	<b>CAS No.</b>
Ammonium chloride	12125-02-9
Stannous chloride	7772-99-8
Iron oxide	1307-37-1

## California Proposition 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## **SECTION 16: OTHER INFORMATION**

### **Full text of H-Statements referred to under sections 2 and 3.**

Acute aquatic toxicity	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage
H319	Eye Irritant. Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through repeated or prolonged exposure.
H402	Harmful to aquatic life.

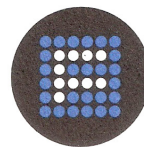
### **HMIS:**

**Health:** 2\*  
**Flammability:** 0  
**Reactivity:** 0

**PREPARATION INFORMATION:** Technical Service Department,  
Force Industries Division

**REVISION DATE:** April 4, 2017  
**SUPERCEDES:** December 14, 2011

# SAFETY DATA SHEET



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