

# KROHN INDUSTRIES, INC.

## Safety Data Sheet KB430 GP1

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### SECTION 1: Identification

#### 1.1 Product identifier

Product name KB430 GP1

#### 1.4 Supplier's details

Name Krohn Industries, Inc.  
Address 303 Veterans Blvd.  
Carlstadt, NJ 07072  
USA

Telephone 201-933-9696  
Fax 201-933-9684  
email info@krohnindustries.com

#### 1.5 Emergency phone number(s)

ChemTel  
800-255-3924

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### SECTION 2: Hazard identification

#### 2.1 Classification of the substance or mixture

- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 1B
- Eye damage/irritation (chapter 3.3), Cat. 1
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

#### 2.2 GHS label elements, including precautionary statements

##### Pictogram



##### Hazard statement(s)

H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

##### Precautionary statement(s)

P234	Keep only in original container.
P390	Absorb spillage to prevent material damage.

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P406	Store in a corrosive resistant container with a resistant inner liner.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents/container in accordance with local/ regional/ national/ international regulations.
P260	Do not breathe mist or vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER or Doctor.
P321	Specific treatment (see this label).
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P271	Use only outdoors or in a well-ventilated area.
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P273	Avoid release to the environment.
P391	Collect spillage.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

#### Hazardous components

##### 1. Zinc chloride

Concentration	4 - 16 %
EC no.	231-592-0
CAS no.	7646-85-7
Index no.	030-003-00-2

##### 2. Ammonium chloride

Concentration	1 - 6 %
EC no.	235-186-4
CAS no.	12125-02-9
Index no.	017-014-00-8

##### 3. Hydrochloric acid (>=37%)

Concentration	1 - 6 %
EC no.	231-595-7
CAS no.	7647-01-0
Index no.	017-002-01-X

##### 4. TIN

Concentration	59 - 82 %
CAS no.	7440-31-5

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### 5. Silver

Concentration 2.5 - 3.5 %  
CAS no. 7440-22-4

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Consult a physician.
In case of skin contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
In case of eye contact	Immediately flush eyes and under eyelids with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if symptoms occur.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Burning pain and severe corrosive skin damage. Causes digestive tract burns. Irritation of nose and throat. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Provide general supportive measures and treat symptomatically. Chemical burns: Flush water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Use Class D extinguishing agents or sand on fires involving dusts or fines. Use extinguishers appropriate for surrounding materials. Use extinguishing media appropriate for surrounding fire.

### 5.2 Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

### 5.3 Special protective actions for fire-fighters

Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Use standard firefighting procedures and consider the hazards of other involved materials.

#### Further information

During fire, gases hazardous to health may be formed.

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## SECTION 6: Accidental release measures

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

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

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### 6.2 Environmental precautions

Avoid release to the environment . Inform appropriate managerial or supervisory personnel of all environmental releases. If molten, prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Do not flush into surface water or sanitary sewer system.

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

This product is miscible in water. Solid metal does not pose any problems. Dust spills should be cleaned up avoiding dust generation. Wash down with water if contact with acids. Avoid inhalation of dusts. Collect scrap Tin for recycling.

Large Spills: Cover spill with sodium bicarbonate or soda ash and mix. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material ( e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Attempt to reclaim the product, if this is possible.

#### Reference to other sections

No additional information available

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid generating dust and inhaling fumes. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe dust. Do not breathe vapors or spray mist. Keep material dry. Avoid contact with sharp edges or heated material. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. For precautions see section 2.2.

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

Store in plastic containers in cool area away from heat. Keep in a dry , cool and well -ventilated place. Keep container tightly closed. Do not store in glass or porcelain containers. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials(See Section 10 of the SDS).

#### Specific end use(s)

Solder.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 1. Zinc chloride fume (CAS: 7646-85-7)

PEL (Inhalation): 1 mg/m<sup>3</sup> (OSHA)  
OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

#### 2. Zinc chloride fume (CAS: 7646-85-7)

PEL (Inhalation): 1 mg/m<sup>3</sup>, (ST) 2 mg/m<sup>3</sup> (Cal/OSHA)  
OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

#### 3. Zinc chloride fume (CAS: 7646-85-7)

REL (Inhalation): 1 mg/m<sup>3</sup>, (ST) 2 mg/m<sup>3</sup> (NIOSH)  
OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

#### 4. Hydrochloric Acid (CAS: 7647-01-0)

CEV (Inhalation): 7 mg/m<sup>3</sup> (OSHA)

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### 5. Hydrochloric Acid (CAS: 7647-01-0)

CEV (Inhalation): 10 mg/m<sup>3</sup>, 2ppm (ACGIH)

### 6. Hydrochloric Acid (CAS: 7647-01-0)

CEV (Inhalation): 7 mg/m<sup>3</sup> (NIOSH)

### 7. Ammonium Chloride (CAS: 12125-02-9)

STEL (Inhalation): 20 mg/m<sup>3</sup> (ACGIH)

### 8. Ammonium Chloride (CAS: 12125-02-9)

TWA (Inhalation): 10 mg/m<sup>3</sup> (ACGIH)

### 9. Ammonium Chloride (CAS: 12125-02-9)

STEL (Inhalation): 20 mg/m<sup>3</sup> (NIOSH)

### 10. Ammonium Chloride (CAS: 12125-02-9)

TWA (Inhalation): 10 mg/m<sup>3</sup> (NIOSH)

### 11. Tin, inorganic compounds (except oxides) (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 2 mg/m<sup>3</sup> (OSHA)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 12. Tin, inorganic compounds (except oxides) (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 2 mg/m<sup>3</sup>; also tin oxide; except SnH<sub>4</sub> (Cal/OSHA)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 13. Tin, inorganic compounds (except oxides) (as Sn) (CAS: 7440-31-5)

REL (Inhalation): 2 mg/m<sup>3</sup>; except tin oxides (NIOSH)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 14. Tin, organic compounds (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 0.1 mg/m<sup>3</sup> (OSHA)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 15. Tin, organic compounds (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 0.1 mg/m<sup>3</sup>, (ST) 0.2 mg/m<sup>3</sup> (Cal/OSHA)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 16. Tin, organic compounds (as Sn) (CAS: 7440-31-5)

REL (Inhalation): 0.1 mg/m<sup>3</sup> except Cyhexatin (NIOSH)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 17. SILVER (CAS: 7440-22-4 EC: 231-131-3)

PEL-TWA (Inhalation): 0.01 mg/m<sup>3</sup> (OSHA)

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

### 18. SILVER (CAS: 7440-22-4 EC: 231-131-4)

PEL-TWA (Inhalation): 0.1 mg/m<sup>3</sup> (ACGIH)

USA. ACGIH Threshold Limit Values

(TLV)

### 19. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

PEL (Inhalation): 0.01 mg/m<sup>3</sup> (OSHA)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 20. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

PEL (Inhalation): 0.01 mg/m<sup>3</sup> (Cal/OSHA)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

### 21. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

REL (Inhalation): 0.01 mg/m<sup>3</sup> (NIOSH)

OSHA Annotated Table Z-1, [www.osha.gov](http://www.osha.gov)

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### 8.2 Appropriate engineering controls

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. Eye wash facilities and emergency shower must be available when handling this product.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Pictograms



#### Eye/face 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.

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### 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.

#### Body protection

Wear gloves, eye and body protection, which helps to prevent injury from sparks, flame or heat.

#### Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Respiratory protection must be provided in accordance with current local regulations.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

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## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance/form	Grey metallic paste.
Odor	Metallic
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	32 °F (0 °C)
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	0.6 (Butyl acetate=1) (Flux-Binder only)
Flammability (solid, gas)	Not Available
Upper/lower flammability limits	Not Available
Vapor pressure	Not Available
Vapor density	Not Available

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Relative density	Not Available
Solubility(ies)	Insoluble in cold water, hot water. Soluble in Hydrochloric Acid, Sulfuric Acid, Aqua Regia, Alkali. Slightly soluble in dilute Nitric Acid.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Applicable
Oxidizing properties	Not Applicable

### Other safety information

Avoid contact with incompatible materials. Avoid conditions which create dust.

Welding, burning, sawing, brazing, grinding or machining operations may generate dusts and fumes of metal oxides.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

May be corrosive to metals.

### 10.2 Chemical stability

Material is stable under normal handling and storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

Hazardous Decompositions Products: Toxic metal fumes

### 10.4 Conditions to avoid

Tin reacts violently or explosive with fused ammonium nitrate below 200 degree. C. Contact of metallic tin with turpentine may cause fires and explosions. When heated in Chlorine, Tin reacts, producing light and much heat. In the presence of water, cupric nitrate and tin foil, on prolonged intimate contact, will produce flaming and soaking. Sodium peroxide and Potassium peroxide, potassium dioxide, oxidized tin with incandescence.

### 10.5 Incompatible materials

Mercury, Hydrocarbon, Halogens, Oxidizing materials, Strong acids, Strong bases, Reactive with oxidizing agents, acids, alkalies.

### 10.6 Hazardous decomposition products

In solid form, the Product, other than fire or explosion- does not decompose.

Toxic metal oxides, COx & NOx may be produced during a fire involving Tin. Fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the process and procedure. Other conditions which also influence the composition and quantity of the fumes and gases to which worker may be exposed include: the volume of the work area, the quality and the amount of ventilation, the position of the employees face with respect to the fume plume and the respiratory equipment used if any, as well as the presence of contaminants in the atmosphere ( such as chlorinated hydrocarbon vapors from the cleaning and degreasing activities, molds, fluxes, release agents. etc).

Gaseous reaction products may include carbon monoxide and carbon dioxide. If melting or welding with this product, determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from in the worker's breathing zone. Improve ventilation if exposures are not below limits. See Section 8.

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## SECTION 11: Toxicological information

### Information on toxicological effects

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### **Acute toxicity**

Causes severe skin burns and eye damage. Harmful if swallowed. Causes digestive tract burns. May cause respiratory irritation.

### **Skin corrosion/irritation**

Causes severe skin burns

### **Serious eye damage/irritation**

Causes serious eye damage.

### **Respiratory or skin sensitization**

May cause irritation to the respiratory system.

### **Germ cell mutagenicity**

No data available to indicate product or any components present greater than 0.1% are mutagenic or genotoxic.

### **Carcinogenicity**

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

### **Reproductive toxicity**

This product is not expected to cause reproductive or developmental effects.

### **STOT-single exposure**

May cause respiratory irritation.

### **STOT-repeated exposure**

Not classified

### **Aspiration hazard**

Not classified

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## **SECTION 12: Ecological information**

### **Toxicity**

Very toxic to aquatic life with long lasting effects.

### **Persistence and degradability**

No data is available on the degradability of this product.

### **Bioaccumulative potential**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

### **Mobility in soil**

No data available.

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

Not Available

### **Other adverse effects**

None known.

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## **SECTION 13: Disposal considerations**

### **Disposal of the product**



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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.

### Disposal of contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warning even after container is emptied.

### Waste treatment

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Dispose of contents/container in accordance with local / regional/ provincial/ national/ international regulations.

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## SECTION 14: Transport information

### DOT (US)

UN Number:  
Class:  
Packing Group:  
Proper Shipping Name:  
Special Provisions  
Packaging exceptions  
Packaging non bulk

### IMDG

UN Number:  
Class:  
Packing Group:  
EMS Number:  
Proper Shipping Name:  
Marine Pollutant: Yes

### IATA

UN Number:  
Class:  
Packing Group:  
Proper Shipping Name:  
ERG Code

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### Massachusetts Right To Know Components

Chemical name: Zinc chloride  
CAS number: 7646-85-7

#### New Jersey Right To Know Components

Common name: ZINC CHLORIDE  
CAS number: 7646-85-7

#### Pennsylvania Right To Know Components

Chemical name: Zinc chloride  
CAS number: 7646-85-7

#### Massachusetts Right To Know Components

Chemical name: Ammonium chloride

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CAS number: 12125-02-9

### New Jersey Right To Know Components

Common name: AMMONIUM CHLORIDE

CAS number: 12125-02-9

### Pennsylvania Right To Know Components

Chemical name: Ammonium chloride

CAS number: 12125-02-9

### Massachusetts Right To Know Components

Chemical name: Hydrochloric acid

CAS number: 7647-01-0

### New Jersey Right To Know Components

Common name: HYDROGEN CHLORIDE

CAS number: 7647-01-0

### Pennsylvania Right To Know Components

Chemical name: Hydrochloric acid

CAS number: 7647-01-0

### New Jersey Right To Know Components

Common name: TIN

CAS number: 7440-31-5

### Pennsylvania Right To Know Components

Chemical name: Tin

CAS number: 7440-31-5

### Massachusetts Right To Know Components

Chemical name: Silver

CAS number: 7440-22-4

### New Jersey Right To Know Components

Common name: SILVER

CAS number: 7440-22-4

### Pennsylvania Right To Know Components

Chemical name: Silver

CAS number: 7440-22-4

### HMIS Rating

KB430 GP1	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B

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## SECTION 16: Other information

### 16.1 Further information/disclaimer

This information is provided in good faith and is correct to the best of Krohn Industries knowledge as of the date hereof and is designed to assist our customers; however, Krohn makes no representation as to its completeness or accuracy. Our products are intended for sale to industrial and commercial customers. We require customers to inspect and test our products before use and to satisfy themselves as to suitability to their

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