

# **CROWN ALLOYS**

## **COMPANY**

### **MATERIAL SAFETY DATA SHEET**

#### **Section 1 - COMPANY AND MATERIAL IDENTIFICATION**

**PRODUCT TYPE:** Heat resistant compound.

**TRADE NAME:** **CROWN-PURPLE HEAT EATER**

**SPECIFICATION:** N/A

**CLASSIFICATION:** N/A

**VENDOR:** Crown Alloys Company

**ADDRESS:** 30105 Stephenson Hwy.  
Madison Heights, MI. 48071

**TELEPHONE:** (248) 588-3790                      Emergency 24 hour telephone #  
CHEMTREC (800) 424-9300

**WEBSITE:** www.crownalloys.com

**DATE:** December 27, 2004

#### **Section 2 - HAZARDOUS INGREDIENTS**

*IMPORTANT!* This section covers the material from which these products are manufactured. The fumes and gases produced when welding with normal use of these products are covered in Section 5 & 6.

<b>Ingredient</b>	<b>CAS No.</b>	<b>OSHA – TWA PEL,mg/m<sup>3</sup></b>	<b>(ACGIH – TWA)<sup>1</sup> TLV,mg/m<sup>3</sup></b>	<b>Wt.%</b>
<b>Cellulose</b>	9004-34-6	5.0	10.0	7.0 – 13.0
<b>Sodium Chloride</b>	7647-14-5	N/E	N/E	10.0 – 30.0
<b>Mica</b>	12001-26-2	20.0 mppcf	3.0	10.0 – 30.0
<b>Water</b>	7732-18-5	N/E	N/E	30.0 – 60.0

N/E = Not Established

Single values shown are maximum.

NIOSH classifies welding fumes as carcinogens.

mppcf = million of particles per cubic foot of air.

<sup>1</sup>The ACGIH has an established exposure limit for Welding Fumes, Not Otherwise Classified. That Threshold Limit Value is 5 mg/m<sup>3</sup>.

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### Section 3 - PHYSICAL and CHEMICAL CHARACTERISTICS

#### APPEARANCE AND COLOR:

- Purple-Blue compound that is putty-like and odorless.

### Section 4 - FIRE and EXPLOSION HAZARD DATA

The Crown-Purple Heat Eater as shipped is nonhazardous, nonflammable, nonexplosive and nonreactive.

Brazing flame, welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z49.1 "Safety in Welding and Cutting" and "Safe Practices" Code: SP, published by the American Welding Society for fire prevention during the use of welding, brazing and allied procedures.

Rating under National Fire Protection 704:

Health - 0

Flammability - 0

Reactivity - 0

### Section 5 - STABILITY AND REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

#### Hazardous Decomposition Products

When used as intended as a heat sink or to hold material in place for soldering, brazing or welding, the fumes and gases generated can not be classified simply. The composition and quantity of both are dependent upon the type of flux, the metal being soldered/brazed/welded and the rods used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include; coatings on the metal being soldered/brazed/welded (such as paint, plating, or galvanizing), the number of welders, the volume of the work area, the quality and the amount of ventilation, the position of the welder's head with respect to the gas plume, the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities), the process and procedures, as well as the soldering/brazing/welding consumables.

When this compound is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 2, plus those from the base metal, coatings, etc., as noted above. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from an arc, in addition to the shielding gases like argon and helium, whenever they are employed.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes" and "Characterization of Arc Welding Fume" available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

### Section 6 - HEALTH HAZARD DATA

- **EYES:** Acute overexposure to welding fumes may result in dryness or irritation to the eyes.
- **SKIN:** Acute overexposure to welding fumes may result in dryness or irritation to the skin.
- **INGESTION:** Acute overexposure to welding fumes may result in dryness or irritation to the nose and throat.
- **INHALATION:** During brazing and soldering operations, the most significant route of overexposure is via inhalation of fumes. Some of the health effects are listed below:
  - **SHORT TERM (ACUTE):** Inhalation of large amounts of particulates generated by this product during metal processing operations (ie. soldering) may be physically irritating. Preexisting respiratory or allergic conditions may be aggravated in some individuals. *Acute overexposure* to welding fumes may result in discomfort such as dizziness, nausea or dryness and irritation of the nose and throat. *Acute overexposure* to **iron, iron oxide and/or manganese** should be avoided. Otherwise, remove from overexposure and apply artificial respiration if needed.
  - **LONG TERM (CHRONIC):** *Chronic overexposure* to soldering/brazing/welding may lead to siderosis (iron deposits in the lungs) and is believed by some investigators to affect pulmonary functions. Lungs will clear in time when exposure to **iron** and its compounds ceases. *Chronic overexposure* to **manganese** may lead to "Manganism". Manganism affects the central nervous system and symptoms include muscular weakness and tremors. Exposed workers should get quarterly medical examinations for manganism.

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### **Section 7 - PRECAUTIONS FOR SAFE HANDLING & USE/APPLICABLE CONTROL MEASURES**

**VENTILATION AND ENGINEERING CONTROLS:** Maintain exposures below the acceptable exposure levels (see Section 2). Use industrial hygiene air monitoring to ensure that your use of this product does not create exposures that exceed the recommended exposure limits. Always use exhaust ventilation in user operations such as high temperature cutting, grinding, welding, brazing and soldering. Train the welder to keep his head out of the fume plume. Maintain air flow away from the user to remove all fumes and dusts, so that the PEL is never exceeded. Adhere to Environmental regulations for exhausts. Confined spaces require adequate ventilation and/or air supplied respirators. Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR1910), US Government Printing Office, Washington, D.C. 20402 for more details on many of the following.

**RESPIRATORY PROTECTION:** Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below PEL's (see Section 2). Use only NIOSH approved respirators in accordance with 29 CFR 1910.134 – Respiratory Protection. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

**FOR MAXIMUM SAFETY, BE CERTIFIED FOR AND WEAR A RESPIRATOR AT ALL TIMES WHEN WELDING OR BRAZING OR SOLDERING!**

**EYE PROTECTION:** Ensure eyewash/safety shower stations are available near areas where these products are used. Wear safety glasses, goggles or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, "Safety in Welding and Cutting"). As a rule of thumb, start with a shade darker to see the weld zone, then go to the next lighter shade which gives sufficient view of the weld zone. Provide screens and flash goggles to shield others. Goggles must be chemically tight safety goggles. Do NOT wear contact lenses.

**PROTECTIVE CLOTHING:** Wear head, hand, and body protection which helps to prevent injury from radiation, sparks, and electrical shock (see ANSI Z-49.1). At a minimum, this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

**WORK PRACTICES AND HYGIENE PRACTICES:** As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash hands after handling this product. Do not eat or drink while handling this product. Do not smoke or apply cosmetics in areas where exposures exist.

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** If molten, allow spilled material to solidify. Contain the spill and then absorb, sweep-up and dispose of material. Flush the area to a chemical sewer.

**WASTE DISPOSAL METHOD:** Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

### **Section 8 - FIRST AID MEASURES**

- **EYE EXPOSURE:** Flush eyes with plenty of water or saline for at least 15 minutes to remove all residue. Consult a physician. Blindness can result.
- **SKIN EXPOSURE:** Wash thoroughly with soap and water. If a rash or burn develops, consult a physician. Material is corrosive. HF may be present.
- **INHALATION EXPOSURE:** Remove to fresh air. Call a physician immediately; advise of chemical composition (Section 2) and potential health hazards (Section 6). Over inhalation may cause a life-threatening lung injury.
- **INGESTION EXPOSURE:** Call a physical or poison control center at once. Advise of chemical composition (Section 2) and potential health effects (Section 6).
- **RECOMMENDATIONS TO PHYSICIANS:** Treat symptoms and eliminate overexposure.

### **Section 9 – DEFINITIONS OF TERMS**

**CAS No.** - Chemical Abstracts Service Number    **PEL** - Permissible Exposure Level    **TLV** - Threshold Limit Value  
**TWA** - Time Weighted Average    **STEL** - Short Term Exposure Limit    **IARC** – International Agency for Research on Cancer  
**NIOSH** – National Institute of Occupational Safety and Health    **OSHA** – U.S. Occupational Safety and Health Administration  
**TDLo** – the lowest dose to cause a symptom    **TCLo** – the lowest concentration to cause a symptom  
**TD<sub>0</sub>**, **LDLo**, and **LD<sub>0</sub>**, or **TC**, **TC<sub>0</sub>**, **LCLo**, and **LC<sub>0</sub>** – the lowest dose (or concentration) to cause lethal or toxic effects.  
**SARA** – Superfund Amendments and Reauthorization Act    **ACGIH** – American Conference of Governmental Industrial Hygienists  
**LD<sub>50</sub>** & **LC<sub>50</sub>** – These values are the amount of a substance given to the stated species that causes 50% of that species to die.

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