



CROWN ALLOYS COMPANY

SAFETY DATA SHEET

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Heat Resistant Compound

PRODUCT IDENTIFICATION: CROWN PURPLE HEAT EATER

SPECIFICATION: N/A

RECOMMENDED USE: Heat Sink Compound used during various Soldering/Brazing/Welding processes.

SUPPLIER: Crown Alloys Company
30105 Stephenson Hwy.
Madison Heights, MI. 48071

TELEPHONE NUMBER: (248) 588-3790

EMERGENCY NUMBER: (800) 255-3924 (CHEMTREC)

WEBSITE: www.crownalloys.com

Section 2 – HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Not applicable

2.1.1 Classification in accordance with GHS-US

Skin Sens. 1 H317

2.2 Label elements

GHS-US labelling

Hazard Pictograms (GHS-US):



GHS07

Signal word (GHS-US): Warning

Hazard statements (GHS-US):

H317 – May cause an allergic skin reaction

Precautionary statements (GHS-US):

P202 – Do not handle until all safety precautions have been read and understood

P260 – Do not breathe dust/fume/gas/mist/vapors/spray

P280 – Wear protective gloves/protective clothing/eye protection/face protection

P314 – Get medical advice and attention if you feel unwell

P501- Dispose of contents/container in accordance with local / regional / national / international regulations

2.3 Other hazards

Before using this product, contact your doctor to determine if exposure to this product or use of this product will aggravate your medical conditions. Spatter and flames from soldering, brazing and welding may cause burns and/or start fires.

2.4 Unknown acute toxicity (GHS-US)

No data available

Other hazards which do not result in GHS classification:
(When product is used in conjunction with welding)

Electrical shock can kill.

Arc rays can injure eyes and burn skin.

Welding arc and sparks can ignite combustibles and flammable materials.

Overexposure to welding fumes and gases can be hazardous.

Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using these alloys. Refer to Section 8.

Substance(s) formed under the conditions of use:

Welding fumes may contain the following constituent(s) and/or their complex metallic oxides as well as solid particles or other constituents from the consumables, base metal, or base metal coating not listed below:

Chemical Identity	CAS-No.	Chemical Identity	CAS-No.	Chemical Identity	CAS-No.
Carbon Dioxide	124-38-9	Ozone	10028-15-6	Nitrogen Dioxide	10102-44-0
Carbon Monoxide	630-08-0				



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Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

Full text of H-phrases: See section 16

3.2 Mixture

Reportable Hazardous Ingredients:

IMPORTANT: This section covers the materials from which these products are manufactured. Any of the chemicals or compounds subject to reporting under Title III, in Section 313, of the Superfund Amendments and Reauthorization Act (SARA) are marked by an asterisk (*).

Chemical Identity	CAS-No.	Weight Percent (%)	GHS-US Classification
Cellulose	9004-34-6	7.00 – 13.0	Skin Sens. 1, H317
Sodium Chloride	7647-14-5	10.0 – 30.0	Skin Sens. 1, H317
Mica	12001-26-2	10.0 – 30.0	Not classified
Water	7732-18-5	30.0 – 60.0	Not classified

Balance: Other proprietary ingredients that are non-toxic or carcinogenic and are claimed as trade secrets.

Section 4 – FIRST AID MEASURES

4.1 Description of first aid measures

Ingestion: Ingestion is unlikely. Should ingestion occur, seek medical attention immediately. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, begin artificial respiration and obtain medical assistance immediately.

Skin Contact: Should irritation occur, wash affected area with soap and water to remove product. If rash develops, see a physician. If irritation persists, seek medical attention.

Eye Contact: Flush eyes with cool, clean water (low pressure) for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid. If irritation persists seek medical attention.
Arc rays can injure eyes. If exposed, move victim to a dark room, remove contact lenses and cover eyes with a padded dressing and rest. Obtain medical assistance if symptoms persist.

4.2 Most important symptoms/effects, acute and delayed

Medical Conditions Aggravated by Exposure: May aggravate existing eye or skin conditions.

Symptoms/injuries after inhalation: Not likely to be hazardous by inhalation.

Symptoms/injuries after skin contact: Rashes and/or irritations due to contact may occur.

Symptoms/injuries after eye contact: Inert foreign body hazard only.

Symptoms/injuries after ingestion: **Danger of damage to health if swallowed (nausea, vomiting and abdominal pains).**

4.3 Indication of immediate medical attention and special treatment needed

Emergency & First Aid Procedures: Call for medical aid and inform them of the ingredients from Section 3. Employ first aid techniques recommended by The American Red Cross.

Section 5 – FIRE-FIGHTING MEASURES

General Fire Hazards: (When product is used in conjunction with welding) Welding arc and sparks can ignite combustibles and flammable products. Read and understand American National Standard Z49.1, "Safety In Welding, Cutting and Allied Processes" and National Fire Protection Association NFPA 51B, "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" before using this product.

5.1 Extinguishing media

Suitable extinguishing media: Use the extinguishing media recommended for the burning material and fire situation.

Unsuitable extinguishing media: None

5.2 Special hazards arising from the substance

Fire hazard: As shipped, this product is non-hazardous, non-flammable, non-explosive and non-reactive. In case of fire, use NIOSH/MSHA self-contained breathing apparatus.

Explosion hazard: None

5.3 Special protective equipment and precautions for firefighters

Special firefighting procedures: Use standard firefighting procedures and consider the hazards of other involved materials. Use NIOSH/MSHA self-contained breathing apparatus.

Special protective equipment for firefighters: Firefighters should always wear self-contained breathing apparatus and full protective clothing for fires involving chemicals or in confined spaces. Do not allow run-off from firefighting to enter drains or water courses.



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Section 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear the appropriate protective equipment as conditions warrant. Do not touch or walk through spilled material. Ventilate area. Wear appropriate clothing as described in Section 8.

6.2 Environmental precautions

Avoid run off to waterways and sewers. Report releases as required by local, state and federal authorities.

6.3 Methods and material for containment and cleaning up

Clean up spills immediately, observing precautions in the personal protective equipment in Section 8. Prevent product from entering any drains, sewers or water sources. Soak up remainder of the spill with absorbent material and dispose of properly.

For Large Spills: Keep unauthorized people from the area. Absorb residue and sweep up. Place in a closed, labeled container. Dispose of properly.

Section 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid exposure to dust. Do not ingest and avoid contact with eyes. Some individuals can develop an allergic reaction to certain materials. Wash hands thoroughly after handling. Avoid contact of raw material with eyes, skin and clothing. Wear protective clothing and equipment as described in Section 8. Use only with adequate ventilation. Do not eat, drink or smoke when using the product. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Cosmetics should not be applied in areas where exposures exist! Routinely wash work clothing and protective equipment to remove contaminants.

Read and understand the manufacturer's instruction 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, <http://pubs.aws.org> and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, www.gpo.gov.

7.2 Conditions for safe storage, including any incompatibilities

Leave in the original shipping containers before use. Store in a cool, dry place. After using, keep remaining product sealed and dry in original (labeled) packaging. Store in accordance with local/regional/national regulations.

7.3 Specific end use(s)

For welding consumables and related products

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical Identity (CAS-No.)	ACGIH TLV (TWA)	OSHA PEL (TWA)	EINECS NUMBER	HAZARD CLASSIFICATION per ECD 67/548/EEC
Cellulose (9004-34-6)	10.0 mg/m ³	5.0 mg/m ³	232-674-9	No
Sodium chloride (7647-14-5)	Not listed	Not listed	231-598-3	No
Mica (12001-26-2)	3.0 mg/m ³	20 mppcf*	310-127-6	No
Water (7732-18-5)	Not listed	Not listed	231-791-2	No

*mppcf = millions of particles per cubic foot of air

8.2 Exposure controls

Appropriate Engineering Controls: (When used in conjunction with welding)

Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone & the general area. Maintain exposures below acceptable exposure levels (see Section 8.1). 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 and brazing. Train the welder to keep his head out of the fume plume. 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, 8669 Doral Blvd. Suite 130, Doral, FL 33166 and OSHA Publication 2206 (29CFR1910), US Government Printing Office, Washington, D.C. 20402 for more details on many of the following.

Eye/face protection: At a minimum, always wear safety glasses with side shields. Additional protection such as chemical goggles should be worn. Face shields or respirators may be required. Wear helmet or use face shield with filter lens shade number 12 or darker when engaging in any open arc processes. No specific lens shade recommendation for submerged arc processes. Shield others by providing screens & flash goggles.

Skin/Hand Protection: Wear rubber gloves. Individuals who have sensitive skin may find it beneficial to use a barrier cream or moisturizer when excessive or prolonged contact with skin is likely.

Respiratory Protection: Crown Purple Heat Eater is usually used in conjunction with many different open arc processes which requires much more vigilant attention to the resulting fumes.



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8.2 Exposure controls (cont.)

General Respiratory Welding Controls:

Keep your head out of fumes. Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area. An approved respirator should be used unless exposure assessments are below applicable exposure limits. Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV's (see Section 8.1). 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).

Hygiene measures:

A safety shower and eye wash should be available in the immediate work area. Do not eat, drink or smoke when using the product. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Cosmetics should not be applied in areas where exposures exist! Routinely wash work clothing and protective equipment to remove contaminants.

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Physical state	Damp fibrous compound
Color	Blue
Odor	No odor
Odor threshold	Not established

Specific gravity (H ₂ O=1)	Not established
Water reactive	Not established
Flash point	None
Evaporation rate (BuAc=1)	Not established
Boiling point	Not established

Flammability limit - upper (UEL)	Not established
Flammability limit - lower (LEL)	Not established
Vapor pressure	Not established
Vapor density (Air=1)	Not established
pH	Not established
Melting point/Freezing point	Not applicable
Solubility in water	Not established
Partition coefficient (n-octanol/water)	Not established
Auto-ignition temperature	Not established
Decomposition temperature	Not established
VOC content	Not established

Section 10 – STABILITY AND REACTIVITY

10.1 Reactivity

This product is non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

This product is stable under normal conditions.

10.3 Possibility of hazardous reactions

Will not occur.

10.4 Conditions to avoid

Avoid ignition sources and open flames.

10.5 Incompatible materials

None.

10.6 Hazardous decomposition products

Normal use of the Crown Purple Heat Eater as per label instructions does not by itself result in any hazardous decomposition products, however, Crown Purple Heat Eater is usually used in conjunction with many different open arc processes. Please note the below likely hazardous decomposition products from general welding operations:

Welding fumes and gases can't be classified simply. The composition and quantity of both are dependent upon the metal being welded and the rods used. Coatings on the metal being 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 welding consumables. 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.

Section 11 – TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Threshold Limit Value: The ACGIH recommended general limit for welding fume NOS (not otherwise specified) is 5 mg/m³. The ACGIH 1999 preface states: "The TLV-TWA should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section 8 for specific fume constituents that may modify the TLV.

Carcinogenicity: Welding fumes (not otherwise specified) are considered to be carcinogenic defined with no further categorization by NIOSH and IARC.



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Section 11 – TOXICOLOGICAL INFORMATION (continued)

ACUTE TOXICITY: SHORT TERM (ACUTE) OVEREXPOSURE - When used in conjunction with welding or brazing the fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes.
PRIMARY ROUTE OF ENTRY is the respiratory system.

CHRONIC TOXICITY: LONG TERM (CHRONIC) OVEREXPOSURE - When used in conjunction with welding or brazing it is believed by some investigators to affect pulmonary functions.
PRIMARY ROUTE OF ENTRY is the respiratory system.

Avoid direct inhalation of fumes during heating and avoid inhalation of dust. Do not allow dust to accumulate. Monitor fume levels.

Section 12 – ECOLOGICAL INFORMATION

CONTAMINATED PACKAGING: Empty containers should be taken for local recycling, recovery, or waste disposal.

SPILLS: Clean up with inert material and dispose of in accordance to local regulations.

Do not flush into surface water or sanitary sewer system.

Section 13 – DISPOSAL CONSIDERATIONS

Product Disposal Method: Collect and reclaim or dispose in sealed containers at a 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. Under RCRA, it is the responsibility of the user of the final product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This product should be disposed of in accordance with all applicable federal, state and local regulations.

Do not discard into any sewers, on the ground or into any bodies of water.

Contaminated Container or Packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of spent containers and packaging in accordance with all federal, state, regional and/or local regulations.

Review U.S. Federal Hazardous Waste Regulations §40 CFR261 to determine if this is hazardous in USA. Please be advised that state and local requirements, or other country requirements, for waste disposal may be more restrictive or otherwise different than U.S. Federal regulations. It is not possible to give this product a waste code number according to the European waste catalogue because only the intended use of the user consents the assignment of a specific code number.

Section 14 – TRANSPORT INFORMATION

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1 UN number

Not a dangerous good in sense of transport regulations

14.2 UN proper shipping name

Not applicable

14.3 Additional information

Label(s) Required: None

DOMESTIC TRANSPORT REGULATIONS (USA): DOT - not regulated.

DOMESTIC TRANSPORT REGULATIONS (CANADA): TDG - not regulated.

DOMESTIC TRANSPORT REGULATIONS (MEXICO): MEX - not regulated.



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Section 14 – TRANSPORT INFORMATION (continued)

INTERNATIONAL TRANSPORT REGULATIONS:

ICAO – not regulated

IATA – not regulated

IMDG / IMO – not regulated

OTHER AGENCIES: No international regulations or restrictions are applicable.

Handle with care to avoid damaging the product and keep product dry. Do not remove product identification label or warning label. Keep material from freezing and away from heat.

Section 15 – REGULATORY INFORMATION

15.1 US Federal regulations

Read and understand the manufacturer's instructions and precautionary label on this product.

See American National Standard Z49.1, Safety in Welding and Cutting, published by the American Welding Society, 8669 Doral Blvd. Suite 130, Doral, FL 33166 and OSHA Publication 2206 (29CFR1910), US Government Printing Office, Washington, D.C. 20402 U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more detail on safe use of product.

U.S. EPA TSCA (TOXIC SUBSTANCE CONTROL ACT): All constituents of these products are on the TSCA inventory list or are excluded from listing.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to our Local Emergency Planning Committee.

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS:

The following metallic components are listed as SARA 313 "TOXIC CHEMICALS" and are potentially subject to annual SARA 313 reporting.

See Section 3 to see if the ingredient below is present in Crown Purple Heat Eater and to find its percent.

INGREDIENT NAME	CAS NUMBER	DISCLOSURE THRESHOLD
Chromium & chromium compounds	7440-47-3	1.0 % de minimis concentration
Chromium VI	Not listed	0.1 % de minimis concentration
Barium compounds	Not listed	1.0 % de minimis concentration
Cobalt	7440-48-4	0.1 % de minimis concentration
Copper	7440-50-8	1.0 % de minimis concentration
Manganese	7439-96-5	1.0 % de minimis concentration
Nickel	7440-02-0	0.1 % de minimis concentration
Aluminum (fume or dust)	7429-90-5	1.0 % de minimis concentration
Silver	7440-22-4	1.0 % de minimis concentration

Package Labeling:

Additional advice on labeling:

As a finished article the product does not need to be labeled in accordance with EC-directives or respective national laws.

International rules may vary and the appropriate regulations should be followed as defined by the country where the product is used.



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Section 16 – OTHER INFORMATION

SUPERSEDES LAST REVISION: 12/27/2004 (MSDS)

HMIS RATING (Hazardous Materials Information System)			
Health (blue) - 1	Flammability (red) - 0	Reactivity (yellow) - 0	Protective Equipment - X (See Sections 4, 8 & 10)

Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; one time overexposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime overexposure can be fatal).

Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]).

Reactivity Hazard: **0** (normally stable); **1** (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDS's under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA.

NATIONAL FIRE PROTECTION ASSOCIATION:

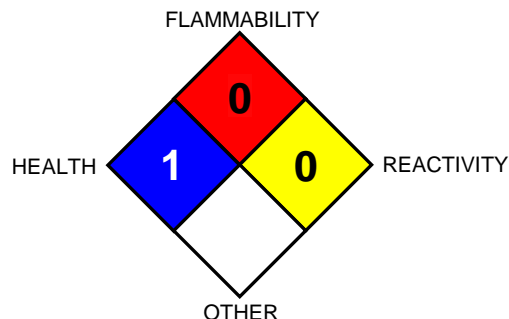
Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials);

1 (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure cause serious temporary or residual injury); **4** (materials that under very short exposure causes death or major residual injury).

Flammability Hazard: Refer to definitions for "HMIS RATING (Hazardous Materials Information System)"

Reactivity Hazard: Refer to definitions for "HMIS RATING (Hazardous Materials Information System)"

NFPA RATING



DEFINITIONS OF TERMS

- ACGIH** - American Conference of Governmental Industrial Hygienists
- CAS No.** - Chemical Abstracts Service Number
- EPA** - Environmental Protection Agency
- GHS** - Globally Harmonized System
- IARC** - International Agency for Research on Cancer
- LC50** - Lethal Concentration (50 percent kill)
- LCLO** - Lowest published lethal concentration
- LD50** - Lethal dose (50 percent kill)
- LDLO** - Lowest published lethal dose
- NIOSH** - National Institute of Occupational Safety and Health
- EINECS** - European Inventory of Existing Chemical Substances

- NTP** - National Toxicology Program
- OSHA** - U.S. Occupational Safety and Health Administration
- PEL** - Permissible Exposure Limit
- SARA** - Superfund Amendments and Reauthorization Act
- STEL** - Short Term Exposure Limit
- TCLo** - the lowest concentration to cause a symptom
- TDLo** - the lowest dose to cause a symptom
- TLV** - Threshold Limit Value
- TSCA** - Toxic Substances Control Act
- TWA** - Time Weighted Average
- ECD** - European Council Directive

Full text of H-phrases (from Section 2)

Skin Sens. 1	Sensitisation of the skin, Category 1	H317	May cause an allergic skin reaction
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DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES: Crown Alloys Company urges each end user and recipient of this SDS to study it carefully. If necessary, consult an industrial hygienist or other expert to understand this information and safeguard the environment and protect workers from the potential hazards associated with the handling or use of this product. The information in this document is believed to be correct as of the date issued. However, this information is provided without any representation or warranty, expressed or implied, regarding accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons we do not assume responsibility and expressly disclaim liability of loss, damage, or expense arising from it or any way connected with the handling, storage, use, or disposal of this product. Data may be changed from time to time. Be sure to consult the latest edition of the SDS. Compliance with all applicable Federal, State, Provincial and local laws and regulations remain the responsibility of the user.