

Section 1: Identification of the Substance/Mixture

Product identifier used on the label:

Product Name: Heat Powder, 8218, 8416, 8614, 8812

Other means of identification:

Product Codes: 8218, 8416, 8614, 8812

Recommended use of the chemical and restrictions on use:

Product Uses: Chemical reactions

Product Restrictions: For professional use only

Chemical manufacturer address and telephone number:

Manufacturer Name: EaglePicher Technologies

Manufacturer Address: PO Box 49

Manufacturer City: Joplin

Manufacturer State: MO

Manufacturer Zip Code: 64802

Business Phone: 1-417-623-8000

Emergency phone number:

Chemtrec: CHEMTREC Numbers: For emergencies in the US, call CHEMTREC: 800-424-9300

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Section 2: Hazards Identification

Classification of the chemical in accordance with CFR 1910.1200(d)(f):



Signal Words: Danger

GHS Class: Oxidizing solids, category 1
 Acute Oral Toxicity, category 4
 Flammable solids, category 1
 Skin Irritation, category 2
 Eye Irritation, category 2B
 Respiratory sensitization, category 1
 Specific Target Organ Toxicity - STOT, Single Exposure SE, category 3
 Specific Target Organ Toxicity - STOT Repeated exposure RE, category 1

Hazard Statements: H271 - May cause fire or explosion; strong oxidizer.
 H302 - Harmful if swallowed.
 H228 - Flammable solid.
 H315 - Causes skin irritation.
 H320 - Causes skin irritation.
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 - May cause respiratory irritation.
 H372 - Causes damage to organs through prolonged or repeated exposure .

Precautionary Statements:

P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P220 - Keep/Store away from clothing/{...}/combustible materials.
P221 - Take any precaution to avoid mixing with combustibles.
P264 - Wash {...} thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P283 - Wear fire/flame resistant/retardant clothing.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P306+P360 - IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P330 - Rinse mouth.
P370+P378 - In case of fire: Use {...} to extinguish.
P371+P380+P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/ {...} / equipment.
P352 - Wash with plenty of soap and water.
Do not eat, drink or use tobacco when using this product
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P285 - In case of inadequate ventilation wear respiratory protection.
P273 - Avoid release to the environment.
P405 - Store locked up.
P391 - Collect spillage.
P314 - Get medical advice/attention if you feel unwell.
P304+P312 - IF INHALED: Call a POISON CENTER/doctor/...if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.

Hazards not otherwise classified that have been identified during the classification process:

Section 3: Composition/Information on Ingredients

Mixtures:

Ingredient Name	CAS Number	Ingredient Percent	EC Number	Comments
Iron	7439-89-6	80-90		
Potassium Perchlorate	7778-74-7	10-20		

Section 4: First Aid Measures

Description of necessary measures:

Eye Contact: Check the victim for contact lenses, and remove if present. In case of contact, lift eyelids and immediately flush eyes with plenty of water for at least 15 minutes. Do not allow the victim to rub/shut eyes. Call a physician.

Skin Contact: In case of contact, flush skin with water. Wash area with soap and water. Wash clothing before reuse. Call a physician if irritation occurs.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: If swallowed, call a poison control center/physician immediately and provide SDS data on composition. Unless advised differently, provide victim with 1-2 glasses of water and induce vomiting. Follow up with physician.

Most important symptoms/effects, acute and delayed:**Indication of immediate medical attention and special treatment needed****Section 5: Firefighting Measures****Suitable and unsuitable extinguishing media**

Extinguishing Media: Use dry sand, dry dolomite, or graphite powder, or other dry chemical extinguishing agent formulated for metal fires.

Unsuitable Media: Do not smother the fire with a blanket. Do not use powder or CO₂- type extinguishers.

Specific hazards arising from the chemical

Special Fire Properties: Explosion can occur if there is a fire in a closed space containing potassium perchlorate and a combustible material. A closed container with potassium perchlorate which is not open to the air can explode if heated above the decomposition temperature 600° C

Unusual Fire Hazards: Fire burns rapidly and intensely. Iron can have a violent or explosive reaction with ammonium nitrate + heat, ammonium peroxodisulfate, chloric acid, chlorine trifluoride, chloroformadinitium nitrate. Iron may also react with water to produce explosive hydrogen gas.

Dust Explosion Potential: Dust is an explosion hazard.

Special protective equipment and precautions for fire-fighters

Fire Fighting Instructions: Extinguish fire with large amount of water at low pressure to avoid spreading the fire. Containers near the heat source must be removed immediately or cooled with water. Do not smother the fire with a blanket. Do not use powder or CO₂- type extinguishers.

Protective Equipment: Firefighters should wear full protective gear.

Section 6: Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

Personnel Precautions: Utilize recommended protective clothing and equipment. Avoid inhalation of dust. Remove sources of heat. Isolate area and keep unnecessary personnel away.

Methods and materials for containment and cleaning up

Methods for Containment: Collect spilled material and place in sealed containers for reclamation or disposal. Collect wash water for approved disposal. Keep from entering water or ground water.

Methods for Cleanup: Use spark-resistant tools and equipment to clean spills in a manner that does not disperse dust into the air. Spill area can be washed with water. Avoid friction and static buildup.

Large spill: Isolate spill and provide ventilation.

Environmental precautions

Environmental Precautions: N/A

Section 7: Handling and Storage**Precautions for safe handling**

Handling: Avoid breathing dust. Avoid getting in eyes or on skin. Wash thoroughly after handling. Reseal containers immediately after use. Keep away from food and beverages.

Special Handling: Avoid friction and static charges. Bond containers before transferring powder between containers.

Conditions for safe storage, including any incompatibilities

Storage: Store in well ventilated area at ambient temperature in a closed container. Store in a dry place away from direct sunlight, heat sources and incompatible materials. Avoid storing in humid conditions that can cause oxidation.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

Appropriate engineering controls

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Ventilation: Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit. Use NIOSH approved respiratory protection when necessary.

Individual protection measures

Eye Protection: Safety glasses or goggles

Skin Protection: PVC gloves with impervious boots, apron or coveralls. Wash hands and face before eating, drinking or using tobacco.

Respiratory Protection: Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator must be worn.

PPE Routine Handling: For open handling of powder wear conductive shoes (or static control footstraps), safety glasses, fire-resistant shirt and pants, 40 calorie fire-resistant coat, fire resistant head covering with integrated face shield (arc flash hood), Kevlar or similar fire-resistant gloves

Emergency Other Protective: Emergency showers and eye wash stations should be available. Educate and train employees in the safe handling of hazardous chemicals.

Section 9: Physical and Chemical Properties

Physical and chemical properties

Physical State: Solid, powder

Color: Light gray

pH: ND

Boiling Temperature: N/A

Lower Flammable Limit: N/A

Upper Flammable Limit: N/A

Vapor Pressure: N/A

Vapor Density: N/A

Solubility In Water: ND

Evaporation Rate: N/A

Percent Volatile: N/A

VOC Content:	N/A
Viscosity:	N/A
Odor Threshold:	ND
Note from Section 9:	Flammability: Flammable Solid

Section 10: Stability and Reactivity

Reactivity:

Reactivity:	Stable
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Chemical Stability:

Chemical Stability:	Decomposes above 600C
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Possibility of hazardous reactions:

Hazardous Polymerization:	Will not occur.
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Conditions To Avoid:

Conditions To Avoid:	Friction, static electricity, open flame and other sources of ignition, oxidizers Excessive temperatures
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Incompatible Materials:

Incompatible Materials:	Combustible material, organic materials, fuels, metal powders, strong reducing agents. Iron is incompatible with ammonium nitrate, heat, ammonium, peroxodisulfate, chloric acid, chlorine, trifluoride, chloroformadanium, nitrate, sodium acetylide, chlorine, dinitrogen tetraoxide, liquid fluorine, nitryl fluoride + heat, peroxy formic and potassium dichromate, sodium peroxide (@ 240C)
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Hazardous Decomposition Products:	Contact of iron with strong acids form flammable and explosiv hydrogen gas.
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Possible Decomposition Products:	Potassium Chloride, Oxygen
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Section 11: Toxicological Information

Toxicological Information:

Product:

Eye Toxicity:	May cause eye irritation.
Skin Toxicity:	May cause skin irritation.
Ingestion Toxicity:	Harmful if swallowed.
Inhalation Toxicity:	May cause respiratory irritation.
Route of Exposure:	Eye contact. Ingestion. Inhalation. Skin contact.
Target Organ Data:	Lungs - damage though prolonged or repeated exposure.

Potassium Perchlorate:

Acute Toxicity:	Irritating to the skin and eyes on contact. Inhalation will cause irritation to the lungs and mucus membrane. Irritation to the eyes will cause watering and redness. Reddening, scaling, and itching are characteristics of skin inflammation. Follow safe industrial hygiene practices and always wear protective equipment when handling this compound.
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Ingestion Toxicity:	LD50: 2100 mg/kg lpr-Mus LD50: 551 mg/kg
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Chronic Toxicity:	This product has no known chronic effects. Repeated or prolonged exposure to this compound is not known to aggravate medical conditions.
Iron:	
Acute Toxicity:	May cause skin irritation and dermatitis especially in creases of the skin where metal may accumulate and rub against skin. May cause eye irritation.
Ingestion Toxicity:	LD50: Rat 984 mg/kg
Inhalation Toxicity:	Inhalation of metal powder may cause chills, fever, sweating, nausea, and cough (symptoms of metal fume fever). Symptoms typically begin 4 to 12 hours after the initial exposure and last approximately 24 hours. Other effects: nose/throat irritation, metallic taste, difficulty breathing, weight loss, chest pain.
Chronic Toxicity:	Effects of long term or repeated exposure to metal powders may include respiratory disease, pneumoconiosis, bronchial asthma, lung fibrosis, and obstructive airway syndrome. May cause chronic iron poisoning and pathological deposition of iron in the body tissue.

Section 12: Ecological Information

Ecotoxicity:

Product:

Ecotoxicity: N/A

Iron:

Ecotoxicity: 96hr LC50 *Morone saxatilis* 13.6 mg/L (static)
96hr LC50 *Cyprinus carpio* 0.56 mg/L (semi-static)

Persistence and degradability:

Product:

Environmental Fate: N/A

Biodegradation: N/A

Iron:

Environmental Fate: Metal powders may cause ecological damage through silting or sedimentation effect in water depriving organisms of habitat and mobility, fouling of gills/lungs/skin limiting oxygen uptake.

Bioaccumulative potential:

Product:

Bioaccumulation: N/A

Iron:

Bioaccumulation: Metal powders in water or soil may form metal oxides or other metal compounds that could become bioavailable and harm aquatic or terrestrial organisms.

Mobility in soil:

Product:

Mobility In Environmental Media: N/A

Section 13: Disposal Considerations

Description of waste:

Waste Disposal: Waste disposal should be in accordance with existing federal, state and local environmental regulations.

Section 14: Transport Information

DOT Shipping Name: Flammable Solid, inorganic, n.o.s., (Potassium Perchlorate, Iron Powder)
DOT UN Number: UN3178
DOT Hazard Class: 4.1
DOT Packing Group: II
DOT Other: Reference Number: EX-9502074

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product:

Regulatory - Product Based:

TSCA 12(b): Export Notification:

This compound is on the EPA Toxic Substance Control Act (TSCA) Inventory List

Prop 65:

To the best of our knowledge, this product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive effects.

SARA:

SARA 313 Title III:
 Section 320 Extremely Hazardous Substances: None
 Section 311/312 Hazardous Categories: None
 Section 313 Toxic Chemicals: None

Regulatory - Ingredient Based:

Potassium Perchlorate:

RTECS Number: SC9700000

Section 16: Additional Information

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Author: Enviance

Disclaimer: This SDS is intended to provide a summary of our knowledge and guidance regarding the use of this chemical. The information contained here has been compiled from sources considered by EaglePicher Technologies, LLC to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. EaglePicher Technologies, LLC assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of the chemical.

Other Information:

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