Material Safety Data Sheet

Iron powder

Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Non-hazardous in case of inhalation.
Potential Chronic Health Effects:
The substance may be toxic to liver, cardiovascular system, upper respiratory tract, pancreas. Repeated or prolonged exposure to the substance can produce target organs damage.

First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact: Wash with soap and water. Get medical attention if irritation develops.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Extinguishing the fire

SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation o.

Material Safety Data Sheet

Copper powder

Hazards Identification

Eye: Causes eye irritation.
Skin: Causes skin irritation. May cause skin discoloration.
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.
Inhalation: Dust is irritating to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.

First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Extinguishing the fire

Use dry sand, Met-L-X powder, or G-1 graphite powder. Contact professional fire-fighters immediately. Use dry sand, graphite powder, dry sodium chloride-based extinguishers. Dousing metallic fires with water may generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment.

Exposure Controls/Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate gloves to prevent skin exposure.

Material Safety Data Sheet

Brass powder

Hazards Identification

Eye: Causes eye irritation.
Skin: May cause an allergic skin reaction.
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.
May causes damage to organs (lung, central nervous system) through prolonged or repeated exposure

First Aid Measures

Inhalation
Remove source (s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.
Eye Contact
Flush eyes with plenty of water occasionally lifting the upper and lower eyelids. Check and remove any contact lenses if safe to do so. Continue to rinse for at least 15 minutes. If irritation develops, seek medical attention.
Skin Contact
In case of skin contact, wash thoroughly with soap and water. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Extinguishing the fire

Water Fog, Dry Chemical, and Carbon Dioxide Foam

Exposure Controls/Personal Protection

Hand Protection :
Wear any liquid-tight gloves such as butyl rubber, neoprene or PVC.
Eye Protection: Safety glasses with side shields per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses. Other Protective Clothing/Equipment Additional protective clothing or equipment is not normally required. Provide eye bath and safety shower.
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Wash thoroughly after handling.

Material Safety Data Sheet

Bronze powder

Hazards Identification

Target organs: Respiratory system, nasal septum, skin, eyes, gastrointestinal system, kidneys, liver, cardiovascular system.

Acute exposure may cause metallic taste and nasal ulceration and perforation. Prolonged skin contact may produce sensitization dermatitis. Exposure may result in irritation and metal-fume fever, metallic taste, and discoloration of the skin and hair. Ingestion of copper compounds may cause vomiting and collapse. Acute poisoning is characterized by hemolysis, jaundice, anuria, hypotension and convulsions. Inorganic tin compounds are eye, mucous membrane and primary skin irritants, Acute exposure may irritate the eyes and repiratory tract.

First Aid Measures

Eye contact: Immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Seek medical attention immediately. Contact lenses should not be worn.
Skin contact: Flush contaminated skin with water. Seek medical attention if irritation occurs/persists.
Inhalation: If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep affected person warm and at rest. Seek medical attention as soon as possible.
Ingestion: Emergency treatment: dilute with water or milk. Remove by gastric lavage (i.e. stomach tube) unless patient is vomiting. Get medical attention as soon as possible.

Extinguishing the fire

Water Fog, Dry Chemical, and Carbon Dioxide Foam

Exposure Controls/Personal Protection

Hand Protection: Wear any liquid-tight gloves such as butyl rubber, neoprene or PVC.
Eye Protection: Safety glasses with side shields per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.
Other Protective Clothing/Equipment: Additional protective clothing or equipment is not normally required. Provide eye bath and safety shower.
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Wash thoroughly after handling.

Material Safety Data Sheet

Aluminum powder

Hazards Identification

CAUTION! Combustible solid. Flammable solid, keep away from all ignition sources. Dangerous when wet. Target organs: None known This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.

First Aid Measures

Eyes: Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.
Skin: Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.
Ingestion: Call Poison Control immediately. Aspiration hazard. Rinse mouth with cold water. Give victim 1-2 tbsp of activated charcoal mixed with 8 oz water.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration

Extinguishing the fire

Protective equipment and precautions for firefighters: Do not use carbon dioxide, foam, water or halogenated 0 0 extinguishing agents. Use class D extinguisher or smother with soda ash, dry sand, dry clay, dry sodium chloride or dry graphite. Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

Exposure Controls/Personal Protection

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking.

Material Safety Data Sheet

Phosphorus copper powder

Hazards Identification

The product does not represent a hazard to health, safety or environment when handled and stored as advised.
Flammable and noxious gases may be formed in contact with moisture, acids or bases.
FeSi-dust suspended in air may under certain conditions cause dust explosions.

First Aid Measures

Inhalation: Irritation caused by dust: Fresh air. See a physician on persistent feeling of discomfort.
Skin contact: Wash skin with water and/or a mild detergent.
Eye contact: Rinse eyes with water/saline solution. See a physician on persistent feeling of discomfort.
Ingestion: Remove the person affected from dust-exposed area. See inhalation**.**

Extinguishing the fire

Extinguishing media: Dry sand, CO_2 or dry powder.

Exposure Controls/Personal Protection

Eye protection, eye flushing facilities and protective gloves. Ensure good ventilation. Wear a particulate respirator according to 29CFR1910.134 or CSA Z94.4- M1982 in areas of inadequate ventilation. in areas of poor ventilation (e.g. storage holds, bunkers etc.), a self-contained breathing apparatus or an air fed respirator should be worn.

Material Safety Data Sheet

Ferro silicon powder

Hazards Identification

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

First Aid Measures

General Advice
If symptoms persist, call a physician.
Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Extinguishing the fire

Extinguishing media: Dry sand, CO_2 or dry powder.

Exposure Controls/Personal Protection

Eye/face Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection: No protective equipment is needed under normal use conditions.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

Material Safety Data Sheet

Ferromanganese powder

Hazards Identification

Causes skin and eye irritation. Causes eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer. May damage fertility or the unborn child. Causes damage to the immune system and nervous system through prolonged or repeated exposure. In contact with water releases flammable gas.

First Aid Measures

Inhalation:
If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.
Skin Contact: Wash skin with soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.
Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
Ingestion: Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Get medical attention.

Extinguishing the fire

Dolomite, dry powder for metal fires, dry sand, graphite, soda ash, and sodium chloride.

Exposure Controls/Personal Protection

Eye Protection: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Clothing: Wear appropriate chemical resistant clothing.
Gloves: Wear appropriate chemical resistant gloves.
Respirator: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.