

SAFETY DATA SHEET

1. Product and Company Identification

Chimfex

Identified Use: Chimney fire suppressant Use Advised Against: Do not use inside a vehicle

Manufacturers Information Orion Safety Products EMERGENCY CHEMTREC
 3157 North 500 West 1-800-424-9300
 Peru, IN 46970
 US 1-800-851-5260
 Intl (11) 1-765-472-4375

2. Hazards Identification

GHS Classifications

| | | |
|-------------------------------|-------------|------|
| Skin Irritation | Category 2 | H315 |
| Eye Irritation | Category 2A | H319 |
| Respiratory Sensitizer | Category 1B | H334 |
| Skin Sensitizer | Category 1B | H317 |
| Carcinogenicity | Category 2 | H351 |
| Aquatic Environment – Acute | Category 1 | H400 |
| Aquatic Environment – Chronic | Category 1 | H411 |

GHS Label Elements

Pictograms



Signal Word

Warning

Precautionary Statements

| | |
|------|--|
| P103 | Keep out of reach of children |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. – No smoking. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P261 | Avoid breathing dust/smoke |
| P280 | Wear protective eye, body and hand protection |
| P273 | Avoid release to the environment |

Hazard Statements

| | |
|--------------|--|
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H317 | May cause an allergic skin reaction |
| H351 | Suspected of causing cancer |
| H400 | Very toxic to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |
| P301/315 | IF SWALLOWED: Get immediate medical advice /attention. |
| P302/352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304/340/342 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. |
| P305/338/351 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P333/313 | If skin irritation or rash occurs, get medical advice/attention. |
| P370 | In case of fire: use water deluge |

Hazards Not Otherwise Classified (HNOC): none

3. Composition / Information on Ingredients

| Component | CAS # | EINCS # | %age |
|--------------------|------------|-----------|------|
| Zinc dust | 7440-66-6 | 231-175-3 | <50% |
| Sulfur | 7704-34-9 | 231-722-6 | <20% |
| Potassium Nitrate | 7757-79-1 | 231-818-8 | <20% |
| Strontium Nitrate | 10042-76-9 | 233-131-9 | <15% |
| Paraffinic Oil | 64742-54-7 | 232-384-2 | <5% |
| Sawdust | 9004-34-6 | 232-674-9 | <5% |
| Sodium Bicarbonate | 144-55-8 | 205-633-8 | <5% |

Note: Due to Confidential Business Information i.e "Trade Secrets", the exact percentage of each ingredient has not been disclosed. CBI information will be shared with appropriate authorities if circumstances warrant.

4. First Aid Measures

Description of first aid measures

| | |
|------------|--|
| Inhalation | If smoke or contents are inhaled, remove to fresh air. Watch for signs of allergic reaction. Use a bronchodilator inhaler if directed by asthma patient. If not breathing, give artificial respiration and get medical aid. Inhalation of zinc oxide fumes may cause an influenza-like illness termed metal fume fever. Symptoms, which appear several hours following exposure, include chills, lassitude, malaise, frontal headache, low-back pain, muscle cramps, and vomiting. Get medical aid immediately if these symptoms appear. |
| Skin | If contents are contacted, wash with area with soap and water for 15 minutes. Remove contaminated clothing and wash before |



| | |
|--|---|
| Eyes | reuse. Get medical aid if irritation occurs. If contents get into eye, flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses if easily possible. Get medical aid immediately. |
| Ingestion | Get medical aid immediately. |
| Most important symptoms and effects | both acute and delayed See section 2 labeling and section 11 |
| Indication of any immediate medical attention and special treatment needed | Inhalation of zinc oxide fumes may cause an influenza-like illness termed metal fume fever. Symptoms, which appear several hours following exposure, include chills, lassitude, malaise, frontal headache, low- back pain, muscle cramps, and vomiting. Get medical aid immediately if these symptoms appear. |

5. Firefighting Measures

| | | | |
|---|--|--------------------------------|--|
| Extinguishing Media | Water deluge | Unsuitable Extinguishing Media | Foam and dry chemical extinguishers and suffocation are ineffective. |
| Protective Equipment and Precautions for Firefighters | Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Prevent further propagation of fire by spraying unburnt nearby product with water. Combat fire from a sheltered position. Devices will burn readily in a fire situation generating zinc oxide fumes. Firemen exposed to contaminated smoke should be immediately relieved and checked for symptoms of exposure to toxic gasses. Seek medical attention immediately! This should not be mistaken for heat exhaustion or smoke inhalation. These are extremely irritating to the respiratory tract and may cause breathing difficulty and pulmonary edema. Symptoms may be delayed several hours or longer depending upon exposure. | | |
| Specific Hazards Arising from the Chemical | Flame and sparks are ejected out the open end of the flare when it functions. Burning unit produces copious amounts of white smoke containing zinc oxide fumes. Avoid contact with smoke. Contents may ignite and burn explosively when suspended in air and exposed to open flame or spark. | | |
| Further information | No data available | | |

6. Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures
 Do not breathe contents and avoid contact with skin and eyes. Wear flame retardant clothing with long sleeves, dust mask, rubber or nitrile gloves, safety goggles, safety shoes. Avoid friction on the released product. Keep away from ignition sources.

Environmental Precautions
 Prevent dispersion of contents on soil and in water. Prevent contents from spreading or entering into drains, ditches, groundwater or rivers by using appropriate barriers.

Methods for Containment and Clean-up
 Use caution when cleaning up spilled product contents. Remove heat, flames, sparks and other sources of ignition. Use non-sparking tools and equipment. Prevent buildup of electrostatic charges by grounding. Clean spills in a manner that does not disperse dust into the air. Do not absorb in sawdust or other combustible absorbents. Pick up spill for recovery or disposal and place in an approved container. Wash away remainder with plenty of water. Collect wash water for approved disposal.

7. Handling and Storage

| | |
|--|---|
| Precautions for Safe Handling | Always call your local fire department first if you have a chimney fire. Always point Chimfex away from face and body while igniting and afterward. Fumes harmful if inhaled. Exercise caution when using this product since molten flecks may be emitted. Avoid contact with clothing and other combustible materials. Wear eye protection during use. Follow instructions on package. Ignite product over fireplace hearth or fire-proof stove board. Product is designed for emergency use, do not attempt to ignite or burn this product inside a building or vehicle for demonstration or recreational use. Burning unit produces copious amounts of white smoke containing zinc oxide fumes. Avoid contact with smoke |
| Conditions for Safe Storage, Including Any Incompatibilities | Store in a cool, dry, well-ventilated place away from all sources of ignition. Store away from food and beverages. Store away from flammable materials. Store at ambient temperature. Do not store partially burned Chimfex in a vehicle, closed container, warehouse, or any other building. |

8. Exposure Controls / Personal Protection

| Control parameters | OSHA PEL | ACGIH TLV |
|-------------------------------|---|--------------------------------------|
| Exposure Limits | | |
| Zinc dust | 5 (fume) mg/m ³ | 5 (fume) mg/m ³ |
| Sulfur | Not Established | Not Established |
| Potassium Nitrate | nuisance dust 15 mg/m ³ . | nuisance dust 15 mg/m ³ . |
| Strontium Nitrate | Not Established | Not Established |
| Paraffinic Oil | 5 mg/m ³ | TWA 5 mg/m ³ |
| Sawdust | 15 mg/m ³ | 10 mg/m ³ |
| Sodium Bicarbonate | Not Established | Not Established |
| Exposure controls | | |
| Engineering Controls | Burning unit produces copious amounts of white smoke containing zinc oxide fumes. Avoid contact with smoke. When used in a confined or restricted space area use NIOSH/MSHA approved SCBA. When cleaning up powder, use local and/or general exhaust. | |
| Personal Protective Equipment | | |

| | |
|------------------------|---|
| Eye / Face Protection | Safety glasses or goggles |
| Skin Protection | None under normal conditions when using product unless prolonged handling is anticipated. Impervious protective clothing, including gloves, boots, and a lab coat, apron or coveralls, as appropriate, when cleaning up spilled product. Wash hands and face before eating, drinking or using tobacco products. |
| Respiratory Protection | None under normal conditions when using product. A particulate respirator (NIOSH N95 or better filters) may be worn during the cleanup of spilled materials. |
| General Hygiene | Use product outdoors away from combustible products. For cleanup of spilled materials, emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous materials. |

9. Physical and Chemical Properties

| | | | |
|---|-------------------|----------------------------|-------------------|
| Appearance (color, physical form, shape): | Grey powder | | |
| pH: | Not available | Melting Point: | Not available |
| Boiling Point / Range: | Not applicable | Freezing Point: | Not applicable |
| Vapor Pressure: | Not applicable | Specific Gravity: | Not applicable |
| Odor: | No data available | Odor Threshold: | No data available |
| Flammability: | No data available | Flammability Limits: | No data available |
| Partition Coefficient: | No data available | Viscosity: | No data available |
| Auto Ignition Temperature: | No data available | Decomposition Temperature: | No data available |
| | | Solubility: | Not available |
| | | Evaporation Rate: | Not applicable |
| | | Vapor Density: | Not applicable |
| | | Flash Point: | Not available |
| | | Relative Density: | No data available |

10. Stability and Reactivity

| | | | | | |
|--|--------|------------------------|---|------------------------------------|--|
| Chemical Stability | Stable | Reactivity: | No information available | Possibility of Hazardous Reactions | Hazardous polymerization will not occur |
| Conditions to Avoid | | Incompatible Materials | Strong oxidizers, acids, chlorate salts | Hazardous Decomposition Products | Carbon monoxide, nitrogen oxides, sulfur oxides, and zinc oxide fumes. |
| Combustible materials, heat, flames, sparks and other sources of ignition. | | | | | |
| Moisture. | | | | | |

11. Toxicology Information

Ingredient acute toxicity information

| Toxicology | Oral LD50 | skin LD50 | LC50 |
|--------------------|------------------|------------------|-----------------------|
| Zinc dust | Rat: 3000 mg/kg | Not available | Not available |
| Sulfur | Rat: >5000 mg/kg | Rat: >2000 mg/kg | Rat: 4 h - 5.434 mg/l |
| Potassium Nitrate | Rat: 3750 mg/kg | Not available | Not available |
| Strontium Nitrate | Rat: 1892 mg/kg | Not available | Not available |
| Paraffinic Oil | Rat: >2000 mg/kg | Rat: >2000 mg/kg | No information found |
| Sawdust | not available | Not available | Not available |
| Sodium Bicarbonate | Rat: 4220 mg/kg | Not available | Not available |

Product toxicological information

| | |
|---|--|
| Acute Toxicity | Not classified – Acute Toxicity Estimate yields oral LD ₅₀ over 5000 mg/kg bw |
| Skin Irritation / Corrosion | Category 2 – over 10% of ingredients classified as a Category 2 |
| Serious Eye Damage / Irritation | Category 2A – over 10% of ingredients classified as a Category 2A |
| Respiratory / Skin Sensitization | Respiratory - Category 1B over 0.1% of ingredients classified as a Category 1 Skin – Category 1B over 0.1% of ingredients classified as a Category 1 |
| Germ Cell Mutagen | No information found |
| Carcinogen | Category 2 - over 0.1% of ingredients classified as a Category 2 |
| Reproductive Toxicity | No information found |
| STOT – single exposure | No information found |
| STOT – repeated exposure | No information found |
| Aspiration Hazard | No information found |
| Likely routes of exposure | Skin, ingestion, inhalation |
| Symptoms related to the physical, chemical and toxicological characteristics | Inhalation of zinc oxide fumes may cause an influenza-like illness termed metal fume fever. Symptoms, which appear several hours following exposure, include chills, lassitude, malaise, frontal headache, low- back pain, muscle cramps, and vomiting. Possible irritation of nasal passages, coughing and fever. |
| Delayed and immediate effects and chronic effects from short and long term exposure | Individuals with known allergies to sulfide drugs may also have allergic reactions to elemental sulfur. Contents could cause severe irritation, possible mild chemical burns, to the eyes. Inhalation of smoke will irritate eyes, lungs and mucus membranes. Avoid breathing smoke whenever possible. Inhalation of zinc oxide fumes may cause an influenza-like illness termed metal fume fever. Prolonged or repeated skin contact with contents may cause dermatitis |
| Interactive effects | No information found |

12. Ecological Information

Ingredient toxicity / persistence / degradability / bioaccumulation / mobility in soil and water

Aquatic Toxicity Strontium Nitrate: Acute toxicity - Fishes, Carassius auratus, LC100, 9,615 mg/l; Chronic toxicity - Fishes, Gasterosteus



aculeatus, LC100, 2,912 mg/l
Sulfur: Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 180 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) – > 5,000 mg/l - 48 h
Potassium Nitrate:-fish:Guppy (Poecilia Reticulata) LC50 180 mg/L (96 h); zooplankton: Daphnia magna LC50 490mg/l – 48hr
Sodium Bicarbonate: Fishes, Oncorhynchus mykiss, LC50, 96 h, 7,700 mg/l- Fishes, Oncorhynchus mykiss, NOEC, 96 h, 2,300 mg/l; - Fishes, Lepomis macrochirus, LC50, 96 h, 7,100 mg/l; - Fishes, Lepomis macrochirus, NOEC, 96 h, 5,200 mg/l; - Crustaceans, Daphnia magna, EC50, 48 h, 4,100 mg/l; - Crustaceans, Daphnia magna, NOEC, 48 h, 3,100 mg/l.
 Persistence / Degradability No information found
 Bioaccumulation / Accumulation No information found
 Mobility in Environmental Media Strontium Nitrate: Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption
Potassium Nitrate: Predicted Distribution : Water, 45% ; Soil, 54.7%
 Other adverse effects No information found

13. Disposal Considerations

Disposal methods

Chimfex should be allowed to burn to completion. Partially burned or unburned items, spilled contents, and ash from burned Chimfex should be disposed of in accordance with federal, state, and local requirements. Consult factory for any additional disposal concerns.

14. Transportation Information

| | ID Number | shipping name | hazard class | packing group | EX Number | Reportable Quantities |
|---------------|-----------|------------------------------------|--------------|---------------|----------------|-----------------------|
| United States | **UN3178 | Flammable Solid, Inorganic, n.o.s. | 4.1 | II | Not applicable | none |

** According to 49CFR, Exception for Class 4, flares properly packaged and classed as UN3178, Flammable solid, inorganic may be renamed "Consumer Commodity" and reclassified as ORM-D and offered for transportation and transported in accordance with the applicable provision of that subchapter

Marine Pollutant: no

Special precautions for user: No information available

15. Regulatory Information

| US Regulations | TSCA | CERCLA | CWA | CAA | SARA 113 | SARA 302 | Acute | Chronic | Fire | Reactivity | Pressure |
|----------------------|---------|--------|-----|--------|---|----------|--------|------------|------|------------|----------|
| Zinc | yes | yes | yes | no | yes | no | yes | No | yes | yes | no |
| Sulfur | yes | no | no | no | no | no | yes | no | yes | no | no |
| Potassium Nitrate | yes | no | no | no | yes | no | no | no | no | yes | no |
| Strontium Nitrate | yes | no | no | no | yes | no | yes | no | no | yes | no |
| Paraffinic Oil | yes | no | no | no | no | no | no | no | no | no | no |
| Sawdust / Wood flour | no | no | no | no | no | no | yes | yes | no | no | no |
| Sodium Bicarbonate | yes | no | no | no | no | no | yes | yes | no | no | no |
| US States | Prop 65 | NJ | PA | Canada | WHMIS | DSL | Europe | wgk | | | |
| Zinc | no | yes | yes | | B6 Reactive flammable material | yes | | nwg | | | |
| Potassium Nitrate | no | yes | yes | | C Oxidizing materials | yes | | 1 | | | |
| Strontium Nitrate | no | yes | no | | C Oxidizing materials D1B Toxic materials D2B Toxic materials | yes | | 2 | | | |
| Paraffinic Oil | no | yes | no | | Not controlled | yes | | not listed | | | |
| Sawdust / Wood flour | yes | yes | yes | | D2A Very toxic materials | yes | | not listed | | | |
| Sodium Bicarbonate | no | no | no | | D2B Toxic materials | yes | | 1 | | | |

16. Other Information

Revision Information: March 2018

| NFPA Rating | | HMIS Rating | |
|--------------|---|-----------------|---|
| Flammability | 1 | Flammability | 1 |
| Health | 2 | Health | 2 |
| Reactivity | 1 | Physical Hazard | 1 |

Key / Legend:

HMIS: hazardous material identification system
 NFPA: national fire protection association CAS:
 Chemical Abstracts Service number EINECS:
 European inventory of existing chemical substances
 OSHA PEL: occupational safety and health administration permissible exposure limit
 NIOSH TLV: national institute of occupational safety and health Threshold Limit Value
 NTP: National Toxicology Program
 IARC: International Agency for Research on Cancer

TSCA: toxic substance control act - US
 CERCLA: comprehensive environmental response, compensation and liability act – US
 CWA: clean water act - US
 CAA: clean air act - US
 SARA: superfund amendments and reauthorization act – US
 PROP 65: California's Proposition 65 list
 WHMIS: workplace hazardous materials information system - Canada
 DSL: Domestic Substances List - Canada
 WGK: water hazard classes - Germany

Legal Statement

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