

PYROCLOUD FIRE SUPPRESSION AEROSOL FROM FIRECHIEF

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Section 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier:

Product name: PyroCloud Dry Sprinkler Powder Aerosol Generators**Identification of the product:** See section 3**Index Number:** See section 3**REACH registration No.:** See section 3

1.2 Relevant identified uses of the substance or mixture and uses advised against:

1.2.1 Identified uses:

Can be used for operational application during localization and extinguishing fire of class A, B and C, localization of fire of class A in closed spaces up, and electrical fires (voltage < 40 kV) eg. blind floor/ceilings, cable ducts and other small volume applications.

1.2.2 Uses advised against:

Not available

1.3 Details of the supplier of the safety data sheet:

Company name: Firechief Global
3 Lands End Way
OAKHAM Rutland
LE15 6RB

Emails address: sales@firechiefglobal.com

1.4 Emergency Telephone Number:

Emergency tel: +44 (0)330 999 0019 (office hours 08:00 - 17:00)

Available outside office hours? No

Section 2. Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification of the mixture:

The mixture is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Skin Sens. 1	H317
Eye Irrit. 2	H319

2.2 Label Elements:

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

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H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

Precautionary statement(s):

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352: IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313: If eye irritation persists: Get medical advice/attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

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

Supplemental Hazard Information (EU): Not applicable

2.3 Other hazards:

The mixture does not contain PBT/vPvB substance.

The mixture does not contain endocrine disruptor.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration	Classification	Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
Potassium Nitrate	01-2119488224-35	7757-79-1	231-818-8	> 50 %	Not Classified	N/A
Cyanoguanidine	01-2119474914-28	461-58-5	207-312-8	10 - 30 %	Not Classified	N/A
Formaldehyde, oligomeric reaction products with phenol	01-2120735197-51	9003-35-4	500-005-2	5 - 15 %	H317 H319 H412	N/A

Section 4. First aid measures**4.1 Description of first aid measures**

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Remove to fresh air. If the victim is not breathing, apply artificial respiration.

4.1.2 In case of skin contact:

Wash immediately with plenty of water and soap.

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4.1.3 In case of eyes contact:

Remove contact lenses, if present, and immediately rinse eyes while holding eyelids open for a sufficient period of time (at least 15 minutes) with lukewarm water. Help the victim with the rinsing process. Then immediately consult a physician/ophthalmologist.

4.1.4 In case of ingestion:

Rinse mouth immediately with water (if conscious). Do not induce vomiting. If the person feels unwell consult a physician or take victim to hospital (show packaging, label or SDS to physician). If the person needs to vomit, keep their head low to prevent vomit from entering the lungs. Place unconscious person on the side in the recovery position. Loosen tight clothing such as a shirt collar, tie, belt or waistband. Rest.

4.2 Most important symptoms and effects, both acute and delayed:

After inhalation:

Exposure to vapour concentrations of component dusts higher than the MAC value can be harmful to the health. Potential health effects include: slight irritation of the airways, sore throat and coughing. The product may cause effects on the blood, resulting in formation of methaemoglobin when ingested. The effects may be delayed. Smoke and gases released during intended use is harmful upon inhalation.

After skin contact:

Slightly irritating to the skin. Redness. Contact with the preparation may result in contact eczema, sensitisation, skin cracking and swelling. Prolonged or repeated exposure may damage the skin and may cause irritation eczema.

After eye contact: May cause irreversible damage to the eyes. Redness. Pain. Particle matter may cause physical injury to the eye.

After ingestion:

Nausea, abdominal pain, blue skin. Product can act on the thyroid gland. Exposure can lead to blood disorders (mild methemoglobinemia). Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown coloured blood.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5. Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media: None this is an extinguishing agent.

Unsuitable extinguishing media: None.

5.2 Special hazards arising from the substance or mixture:

Inhalation of gaseous extinguishing aerosol formed by the discharge.

5.3 Advice for firefighters:

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Wear chemical resistant oversuit. Cool down the containers / tanks with water spray.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

If exposure to extinguishing discharging aerosol is possible, the people should always be evacuated as quickly as possible. Ventilate



the rooms, areas and zones where agent may have been entered.

6.1.2 For emergency responders:

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ventilate the area. Wear suitable protective clothing.

6.2 Environmental Precautions:

Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up:

Improper discharge could result in the deposit of small, localized areas of highly concentrated agglomerated particulate on that surface. If left untended, an agglomerated mass may take on moisture and may cause non-progressive surface discoloration of unprotected metal surfaces. Any agglomerated particulate must be cleaned up with a water/alcohol solution no later than 12 hours following a discharge.

Collect spilled material by hand, e.g. with a dustpan and duster or a vacuum cleaner.

Use of a blower for cleaning is not permitted.

Collect the waste product in suitable drums for disposal.

Wash the spillage area clean with plenty of water.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7. Handling and Storage

7.1 Precautions for safe handling

7.1.1 Protective measures:

When handling observe the usual precautionary measures for chemicals. Prevent dust formation and inhalation of dust. If intense aerosol is released from a dry sprinkler powder system, respiratory protection is required. Wear suitable protective clothing. Eye-wash fountain, particularly with the danger of dust formation. Avoid contact with eyes and prolonged skin contact. Do not smoke, eat or drink during use of the unpacked product.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Keep away from heat sources. Store the product dry. Store in original DSPA packaging at room temperature. Suitable packaging material: Original DSPA packaging. Product is hygroscopic; prevent contact with other liquids. Keep tanks / packing hermetically closed.

Prevent product temperatures above 75 °C and below -50 °C.

7.3 Specific end use(s): Not applicable

Section 8. Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Potassium nitrate (CAS#7757-79-1): Concentration limit: Long - term exposure limit value: 5 mg/m³ (Lithuania)

Formaldehyde, oligomeric reaction products with phenol (CAS#9003-35-4): Concentration limit: Long - term exposure limit value:

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3 mg/m³ (Lithuania).

8.1.2 Additional exposure limits under the conditions of use: Not available.

8.1.3 DNEL/DMEL and PNEC-Values: Not available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Tight fitting acid resistant safety glasses (EN 166). Full face mask with safety glasses if dust formation may occur.

Skin protection:

Hand protection: Safety gloves.

Body protection: Wear appropriate chemical protective clothing (preferably thick cotton or in case of dust risk EN ISO 13982-1 [type 5]).

Respiratory protection: Required at inadequately ventilated workplaces or in case of dust formation. In case of handling the unpacked product (the chemicals) use respiratory protection (FFP-P2 mask EN149).

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment. According to local regulations, federal and official regulations.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance: Solid (pressed compound in rigid steel casing).

Colour: Beige / light red.

Odour: None specific

Odour threshold: Not available

pH: Not available

Melting point/range (°C): Not available

Boiling point/range (°C): Not available

Flash point (°C): Not available

Evaporation rate: Not available

Flammability limit - lower (%): Not available

Flammability (solid, gas): Not available

Ignition temperature (°C): Not available

Upper/lower explosive limits: Not available

Vapour pressure (20°C): Not available

Vapour density: Not available

Relative Density: 1.9

Bulk density (kg/m³): Not available

Water solubility (g/l): Slight (< 1 %)

n-Octanol/Water (log Po/w): Not available

Auto-ignition temperature: Not available

Decomposition temperature: Not available

Viscosity, dynamic (mPa.s): Not available

Explosive properties: Not available

Oxidising properties: Not available

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9.2. Other information:

Fat solubility(solvent-oil to be specified) etc: Not available

Surface tension: Not available

Dissociation constant in water(pKa): Not available

Oxidation-reduction Potential: Not available

Auto activation temperature: >350°C

Section 10. Stability and reactivity

10.1 Reactivity:

The substance is stable under normal storage and handling conditions.

10.2 Chemical stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

10.3 Possibility of hazardous reactions:

Avoid high temperatures, heating, open fire and ignition sources, and prevent the effects of a grinding motion and impact forces that may result in ignition.

10.4 Conditions to avoid:

Incompatible materials. Direct heat, flames or sparks.

10.5 Incompatible materials:

Organic compounds, metal powders, strong acids.

10.6 Hazardous decomposition products:

No hazardous decomposition products are formed if stored under normal conditions. In case of heating or fire, irritating and/or toxic vapours may be released.

Section 11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity:

ATEmix(oral): Not available

ATEmix(inhalation): Not available

ATEmix(Dermal): Not available

Potassium nitrate (CAS#7757-79-1):

LD50(Oral, Rat): > 2000 mg/kg bw

LC50(Inhalation, Rat): > 0.527 mg/L 4h

LD50(Dermal, Rat): > 5000 mg/kg bw

Skin corrosion/Irritation: Not classified

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

STOT- single exposure: Not classified

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified



11.2 Information on other hazards: Endocrine disrupting properties: The mixture does not contain endocrine disruptor.
Other information: Not applicable

Section 12. Ecological information

12.1 Toxicity

Potassium nitrate (CAS#7757-79-1):

Acute (short-term) toxicity:

LC50(96h, Fish): > 100 mg/L

EC50(48h, Crustacea): 490 mg/L

EC50(72h, Algae/aquatic plants): Not available

Chronic (long-term) toxicity:

NOEC(Fish): 157 mg/L, 32d

NOEC(Crustacea): Not available

EC50(Algae/aquatic plants): Not available

12.2 Persistence and degradability:

Partially inorganic and presumed to be partially biodegradable over the long-term.

12.3 Bioaccumulative potential:

Bioaccumulation in organisms is not expected.

12.4 Mobility in soil:

Low solubility in water.

12.5 Results of PBT and vPvB assessment:

The mixture does not contain PBT / vPvB substance.

12.6 Endocrine disrupting properties:

The mixture does not contain endocrine disruptor.

12.7 Other adverse effects:

When released in an aquatic environment damage can be caused by an increased pH.

Ozone Depletion Potential (ODP) = 0

Global Warming Potential (GWP) = 0

12.8 Additional information:

Not available.

Section 13. Disposal considerations

13.1 Waste treatment methods:

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.



Section 14. Transport information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
14.1 UN number or ID number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN Proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated
14.3 Transport hazard Class(es)	Not regulated	Not regulated	Not regulated	Not regulated
14.4 Packing group	Not regulated	Not regulated	Not regulated	Not regulated
14.5 Environmental hazards	No	No	No	No
14.6 Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
14.7 Maritime transport in bulk according to IMO instruments	Not regulated	Not regulated	Not regulated	Not regulated

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorisation: Not applicable

Relevant information regarding restriction: Not applicable

Other EU regulations: Employment restrictions concerning young person must be observed for use only by technically qualified individuals.

Other National regulations: Not applicable

15.2 Chemical safety assessment:

No

Section 16. Regulatory information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2020/878

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

UFI: Unique Formula Identifier

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

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NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Skin Sens. 1	H317	Calculation method
Eye Irrit. 2	H319	Calculation method

16.5 Relevant H-statements (number and full text):

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H412: Harmful to aquatic life with long lasting effects.

16.6 Training instructions:

Not applicable.

16.7 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.8 Notice to reader:

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