



CFP 3375LP

OWNER'S MANUAL & INSTALLATION INSTRUCTIONS

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Revision: 0.1

Approvals



UL Listing EX26659



NYC Fire Dept.
Certificate of Approval
#5903



General Directorate of Civil Defence
Ministry of Interior



Installation, Inspection and Maintenance Manual for CFP 3375LP

This unit is assembled with UL listed and Factory Mutual approved components.

The CFP 3375LP is built in accordance with NFPA 17, refer to NFPA 17 for installation, maintenance, and inspection requirements.

WARRANTY

1-Year Limited Warranty

This Automatic Extinguishing Unit is warranted to the original owner to be free of defects in factory workmanship and material, and against loss of pressure, to the extent as noted within this manual that remanufacturing is required, for a period of one (1) year from date of manufacture, provided that it has not been misused, damaged, or initiated.

The foregoing warranty is expressly in lieu of any other warranties, expressed or implied, including, but not limited to, warranties of merchantability or fitness for a particular purpose. Cease Fire® shall not be responsible for any incidental, contingent, or consequential charges or damages.

“What To Do In A Fire Emergency”

If a fire breaks out:

1. ***Warn Everyone!*** Make certain everyone is clear of the area immediately and remains safely outside.
2. Call the Fire Department ***regardless*** of how small the fire seems to be. Post emergency phone numbers by each telephone.
3. ***Important!*** Locate an exit so you can escape in case the fire should get out of control. Keep low to avoid breathing in smoke and heated fumes that can be fatal.

TYPES OF FIRE CLASSIFICATIONS

Per NFPA Standards:

Class Fires - Class A fires occur in ordinary combustible materials, such as; wood, cloth, paper, rubber, and many plastics.

Class B Fires – Class B fires involve flammable liquids, paints, and lacquers.

Class C Fires – Class C fires involve energized electrical equipment where the non-conductivity of the extinguishing media is of importance.

INSTALLATION INSTRUCTIONS

Cease Fire® System Units were tested by UL for Class A, B and C fires. For total flood applications, the area being protected should be a reasonably tight enclosure where combined openings do not exceed one percent of the total surface area square footage.

Cease Fire® LP (Low Profile) System Units must be hung horizontally with the sprinkler deflector pointed downward. The unit is to be used in areas where the temperature falls between -20° and 120° Fahrenheit (-28.9° to 48.89° Celsius). The unit is to be mounted or attached to a secure ceiling, for example, wood, metal, or concrete. Ensure there are no obstructions to the free flow operations of the sprinkler head and disbursement of the extinguishment within the enclosure.

Do not mount on suspended ceiling or loose tiles.

The pressure switch on Cease Fire® units is to be installed in accordance with national electrical codes, and any local requirements.

CYLINDER ANCHORING NOTES

1. Anchor each end of strut to the building structure as follows:
 - **WOOD FRAMING** – ¼" DIA x 2" HEX HEAD LAG SCREWS WITH ¾" O.D. WASHERS CONFORMING TO ANSI/ASME B18.2.1, GRADE 1. DRILL 5/32" PILOT HOLE.
 - **STEEL BEAM** – ¼"-20 SELF TAPPING SHEET METAL SCREWS GRADE 5 HEAT TREATED WITH DRILLING TIP AND LEAD THREADS HARDENED TO ROCKWELL C52 (BEAM SHALL BE 1/8" THICK MINIMUM).
 - **CONCRETE** – 3/8" DIA FACTORY MUTUAL APPROVED CONCRETE FASTENER INSTALLED PER MANUFACTURER REQUIREMENTS.
2. ANCHOR CEILING FLANGE TO STRUT WITH FOUR ¼" DIA BOLTS (UNISTRUT PART HHCS025075EG) AND STRUT NUTS (UNISTRUT PART 03300-1420). TORQUE BOLTS PER UNISTRUT REQUIREMENTS.
3. APPLY TEFLON TAPE TO THREADS, AND SCREW CYLINDER HAND TIGHT TO CEILING FLANGE.

NOTE: TWO 6" (MINIMUM) PIECES OF UNISTRUT P3300 (OR EQUIVALENT) (OMIT WHERE FLANGE CAN ANCHOR DIRECTLY TO BUILDING STRUCTURE) ANCHOR THROUGH UNCUT SLOTS IN STRUT.

COVERAGE

The coverage area for Cease Fire® System Units is determined according to the following table:

Coverage Area – Total Flood Applications Class A, B, and C Fires

| CFP 3375LP | |
|---------------------------------------|--------------------|
| | 15 ft. high room |
| Max Volume, Cubic ft. | 3375 ft 1028.7m |
| Max Ceiling Height, ft. | 15 ft 4.57 m |
| Max Wall Length, ft Meters | 15 ft 4.57m |

Each unit installed for total flooding protection shall be attached to the ceiling and centered within the enclosure or portions of the enclosure which it protects.

Coverage Area – Local Application (i.e., Spot Protection) Class A, B, and C Fires (For Indoor Applications Only)

| CFP 3375LP | | |
|--|---------------------------------|--------------------------------|
| | 6.1 ft. sprinkler min height | 15 ft. sprinkler max height |
| Max Area, Square ft. Square M | 2.5 0.23 | 2.5 0.23 |
| Sprinkler Height, ft. Meters | 6.1 1.86 | 13.1 3.99 |

Each unit installed for local application protection shall be mounted with the sprinkled head at a height above the hazard within the table above and centered above the hazard.

PRESSURE SWITCH SPECIFICATION

The Cease Fire® System Units' pressure switch specifications are as follows:

1. Set Point Range: 2 - 120 PSI (.14 – 8.3 BAR)
2. Set Point Tolerance: +/- 1 PSI or 5% (.07 BAR)
3. Max Operating Pressure: 250 PSI (17 BAR)
4. Proof Pressure: 750 PSI (51 BAR)
5. Differential: 8-16%
6. Current Rating: 5 AMP
7. Voltage Rating: 24 Volts DC or 250 Volt AC
8. Media Connection: 1/8" NPT Male Brass
9. Circuit Form: SPST-NO or SPST-NC
10. Electrical Connection: 8-32 Screw Terminals
11. Diaphragm Material: BUNA N

Cease Fire® System Units come standard with a Pressure Switch that is suggested to be used with a Normally Closed wiring scheme that will close on descending pressure at 95 PSI (6.55 BAR). This configuration is designed to give a signal to indicate when the Cease Fire® System Unit has discharged and/or a leak or drop in pressure has occurred.

SPRINKLER HEAD SPECIFICATIONS

The Cease Fire® System Units' sprinkler head specifications are as follows:

1. Sprinkler Nominal Temperature Rating: 155°F (68°C)
2. Sprinkler Temperature Classification: Ordinary
3. Maximum Ambient Temperature: 120°F (48.89°C)
4. Bulb Color: Red
5. Glass bulb fluid temperature rating: -65°F (-55°C)
6. Hydrostatic test: 500 PSI (34.47 BAR)
7. Thread Size: ¾" NPT (20 mm BSP)
8. Spring: USA Patent No. 4,167,974
9. Bulb: USA Patent No. 4,796,710

Cease Fire® System Units come standard with a Sprinkler Head that has a Nominal Temperature Rating of 155°F (68°C).

Cease Fire® System Units also have Sprinkler Head options for Nominal Temperature Ratings of 135 °F (57 °C), 175°F (79°C), 200°F (93°C), and 286°F (141°C) for pre-engineered units and 135 °F (57 °C) for automatic units.

OPERATIONS

Automatic Extinguisher Unit – A unit that has no manual means of actuation and discharges extinguishing agent upon thermal actuation is intended for use in a normally unoccupied space and is limited to a single unit covering the protected area. Multiple automatic units may be used in the same protected enclosure provided that each unit is capable of covering the entire enclosure (main/reserve).

Pre-Engineered System – A system that is tested in accordance with the limitations prescribed by the manufacturer for maximum and minimum pipe lengths, accessories, number of fittings, number of types of nozzles and nozzle placement, types of fire risks and their maximum areas, volume or both areas and volumes of protection. When multiple pre-engineered units are protecting the same enclosure, the enclosure shall be divided into sections or modules so that each section contains a unit that does not exceed the area and volume limitations for the unit.

Pre-Engineered Systems with electrical activation are intended to be used with a UL Listed control panel that is compatible with the electric actuator. When used with a control panel, additional detection, notification, and actuation (pull station) devices may be used provided they are compatible with the control panel. Reference the control panel's installation manual for compatibility information.

The Cease Fire® Unit is self-activating. Each unit is designed to discharge automatically by means of a thermal sprinkler head rated at 155°F (68°C). The temperature rating for each sprinkler head is stamped on the star shaped deflector in both Fahrenheit and Celsius measurements. The temperature of the sprinkler head is fixed and must be designated at the time of purchase. When the temperature rise to activate the Cease Fire® unit, the sprinkler head opens automatically and dispenses the entire contents in less than 10 seconds onto the fire and throughout the enclosure being protected. If the unit is equipped with the optional pressure switch, a signal is sent at the time of discharge to activate any remaining pre-engineered units protecting the same enclosure as well as any accessory equipment, such as an alarm. Cease Fire® Pre-Engineered Systems containing 2 or more Fire Suppression units shall be wired in such a way that the units will initiate simultaneously as a total flooding system. It is important to avoid exposure to smoke, vapors, and the fire by-products. Ventilate the area thoroughly before reentry.

Cease Fire® recommends that the empty/discharged unit be immediately replaced.

SPECIFICATIONS

1. Operating Pressure: At 70°F/21°C is 175 PSI (12.07 BAR)
2. Storage Temperature: -20° to 120°F / -28.9° to 48.89°C
3. Contents:
 - CF-33 (MAP is the only powder ingredient in excess of 95%, by weight)
 - Vessel test pressure – 480 PSI (33.10 BAR)

INSPECTION, MAINTENANCE, AND REMANUFACTURING

All Cease Fire® Units are to be inspected and maintained in accordance with this manual and/or NFPA 17.

INSPECTION

Cease Fire® recommends that a “quick check” be performed monthly, following the procedures outlined below. Minimal technical knowledge is required to perform this inspection.

INSPECTION STEPS:

- a. The unit is in its proper location.
- b. Obstructions have not been placed below or alongside the unit.
- c. The label is clean and intact.
- d. No obvious physical damage or conditions exist that may prevent operations.
- e. Pressure is in operable range (see attached Figure 1, Extinguisher Temperature vs. Pressure Graph).
- f. If any deficiencies are found, corrective action shall be taken immediately.
- g. Personnel making inspections shall keep records for those extinguishing units found to need corrective actions. The report shall be filed with the owner or designated responsible party.

MAINTENANCE

Cease Fire® requires that semi-annual maintenance be conducted in accordance with this manual by a trained person who has undergone the instructions necessary, or, as required, licensed to reliably perform maintenance. The maintenance shall consist of:

- a. Check to see that the hazard has not changed.
- b. Examine the container, sprinkler head, head assembly, any auxiliary equipment including pressure switch, wiring, and signaling devices.
- c. If an examination of the container reveals corrosion or pitting, the unit should be replaced or returned to the factory for testing. If substantial corrosion is observed on the hanger assembly, the hanger assembly should be replaced.
- d. The fixed temperature sensing element needs replacement only after discharge.
- e. When the maintenance of the unit reveals defective parts which could cause an impairment or failure of proper operations, the affected parts shall be replaced.
- f. The maintenance report noting an inspector's initials and license number, with recommendations noted if any, shall be filed with the owner, or with the designated responsible party.
- g. Cease Fire® recommends that alternate protection acceptable to the authority having jurisdiction be provided.

Table 1.1 - Unit Pressures Adjusted for Temperature

| Temperature | Pressure |
|-------------|--------------------|
| 32°F/0°C | 132 PSI (7.9 BAR) |
| 70°F/21°C | 175 PSI (12.1 BAR) |
| 100°F/38°C | 220 PSI (15.2 BAR) |

**Table 1.2 - Unit Weights
CFP 3375LP**

| Weight Type | Value (lbs/Kg) |
|------------------|----------------|
| Gross Weight | 74.7/33.88 |
| Mechanical Parts | 9.6/4.4 |
| Weight Maximum | 77.2/35.02 |

REMANUFACTURING

Cease Fire® System Units have a unique blend of patent pending extinguishment agents. *These units can be remanufactured only by Cease Fire® and are not to be refilled in the field.*

Contact Cease Fire® Corporate for further information.

CLEAN UP AFTER DISCHARGE

Cease Fire® System Units are filled with a Dry Chemical mixture. After discharge, Cease Fire® recommends the following clean up steps:

Dry Chemical/CF33:

Corrosion need not be of concern when accompanied by prompt clean up. For the most part, dry chemical agents can be readily cleaned by wiping and/or vacuuming the exposed materials. Cease Fire® recommends a HEPA Filter vacuum for clean-up.

WARNING - *Clean up procedures should be initiated after the fire has been totally extinguished and the area has been ventilated.*

TOXICITY INFORMATION UNIT CONTENTS

Cease Fire® CFP Automatic Fire Extinguisher Units contain CF33 Dry Chemical Agent. General information regarding the extinguishers' contents is as follows. Should more detailed information be required, contact Cease Fire® Corporate.

- a. Dry Chemical, CF33: Monoammonium Phosphate is considered a non-toxic nuisance dust. CF33 does not possess any toxicological properties, which would require special handling other than good industrial hygiene and safety practices. However, as with any finely divided material, it may produce mild irritation effects, especially when used in an enclosed area. In general, these effects are neither serious nor permanent.

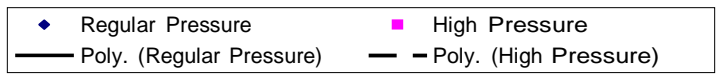
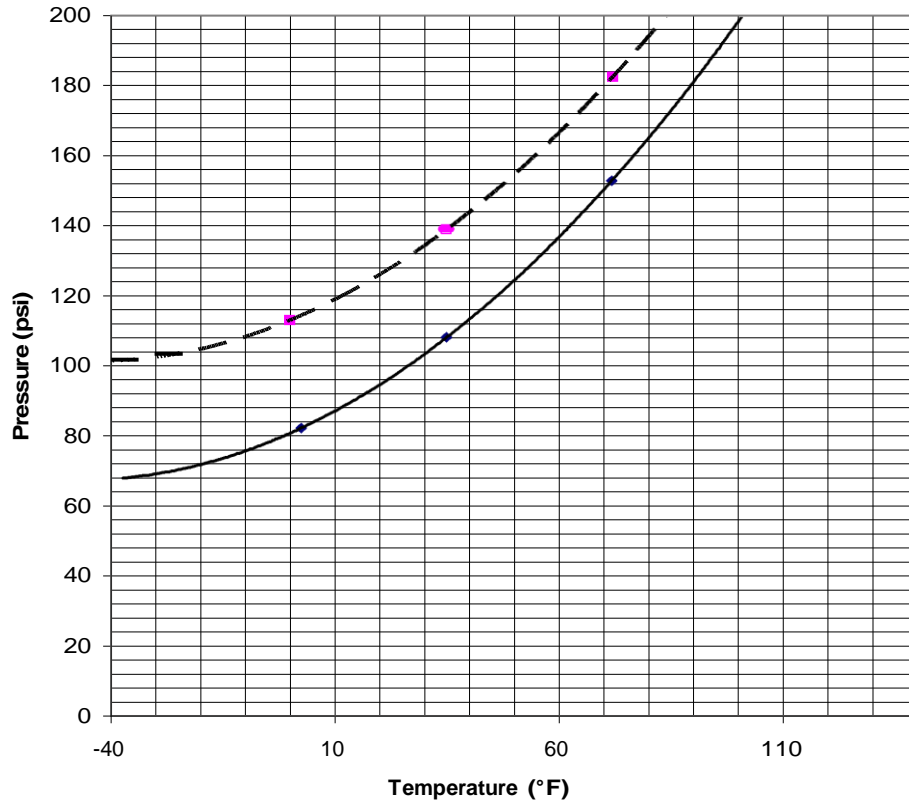
TOXICITY FROM FIRE

“WARNING: The concentrated extinguishing agent when applied to fire can produce toxic by-products. Avoid exposure to vapors, fumes, and products of combustion.” The majority of deaths during fires are caused by toxic smoke from fire. Nearly all fuels produce potentially lethal gases, such as carbon monoxide. Other burning materials provide their own unique hazards, for example, Class A fires of burning wood and paper produce “Acrolein”, Class B fires of burning polyurethane foam produces “Cyanide”, and Class C fires of burning PVC cable insulation creates hydrogen chloride gas. The longer the fire burns, the higher the concentration of these types of gases

BREAKDOWN OF UNITS

| STANDARD COMPONENTS | PART NUMBER |
|-------------------------------|-------------|
| ABC Powder | CF-200 |
| Cylinder 69# | CF-551 |
| Coupling | CF-700 |
| 5.75” Extension | CF-711FM |
| O-ring | CF-800 |
| 155° F Upright Sprinkler Head | CF-900 |
| Tank Valve | CF-1100 |
| Pressure Switch | CF-1201 |
| Plug | CF-1300 |
| Pressure Gauge | CF-1400 |
| Actuator | CF-1600 |
| Actuator Holder | CF-1702 |
| Hanger Flange Assembly | CF-1900 |
| CFP Series Label | CF-2500 |
| CFP Series Owner’s Manual | CF-3500 |

Temp vs Pressure



$$y = 0.006x^2 + 0.5726x + 80.591$$

$$y = 0.006x^2 + 0.5311x + 113.03$$

$$R^2 = 1$$

$$R^2 = 1$$

Revision Records

| Old Revision Number | New Revision Number | Section Number/Page Revised | Description of Revision | Revised by | Date |
|---------------------|---------------------|-----------------------------|-------------------------|----------------|-----------|
| 0.1 | 0.1 | ALL | CFP 3375LP | Cody Kitterman | 11/1/2023 |
| | | | | | |
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| | | | | | |
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| | | | | | |
| | | | | | |



SAFETY DATA SHEET

CF-33 Dry Chemical Agent

1. Product and Company Identification

| | |
|---|---|
| Material Name | CF-33 Dry Chemical Agent |
| Revision Date | 06-21-2023 |
| Issue Date | 08-01-2003 |
| CAS # | Mixture |
| Product Use | Fire Suppression System |
| Manufacturer / Importer / Supplier | |
| Name | Cease Fire, LLC |
| | 9321 NE 72 nd Ave Suite 12 |
| | Vancouver, WA 98665 |
| Phone | 360-567-0990 |
| Internet | http://www.ceasefire.com |
| Emergency Phone Number | CHEMTREC 800-535-5053 or 360-600-2591 |

2. Hazards Identification

| | |
|---------------------------------|--|
| Emergency overview | WARNING |
| | Irritating to eyes and skin |
| Potential health effects | |
| Routes of exposure | Eye contact. Skin contact. Inhalation, Ingestion |
| Eyes | Avoid contact with eyes. Contact with eyes may cause irritation. |
| Skin | Avoid contact with skin. May cause skin irritation. |
| Issue Date: 11/01/2023 | Revision Date: 11/01/2023 |
| | CF-3500 |

| | |
|---------------------------|--|
| Inhalation | Inhalation of dust may cause respiratory irritation. |
| Ingestion | Not a likely route of entry |
| Target organs | Eyes. Respiratory system. Skin. |
| Signs and symptoms | Coughing and irritation of airways. |

3. Composition / Information on Ingredients

| Hazardous Components | CAS # | Percent |
|--|--------------|----------------|
| Calcium Carbonate | 1317-65-3 | <1 |
| Non-hazardous Components | CAS # | Percent |
| Mono-ammonium Phosphate | 7722-76-1 | 50-77 |
| Ammonium Sulfate | 7783-20-2 | 15-45 |
| Attapulgite Clay | 12174-11-7 | 3-8 |
| Mica-potassium Aluminum Silicate | 12001-26-2 | 1-3 |
| Silicone Oil Methyl Hydrogen Polysiloxane | 63148-57-2 | <1 |
| Amorphous Silica Precipitated Synthetic Zeoliteghs | 7631-86-9 | <1 |
| Yellow 14 Pigment – Diazo Dye | 5468-75-7 | <1 |
| Additional Additives Unique to CF-33 | | PROPRIETARY |

4. First Aid Measures

First aid procedures

| | |
|---------------------|---|
| Eye contact | May cause irritation. Irrigate eyes with water and repeat until pain free. Seek medical attention if irritation develops, or if vision changes occur. |
| Skin contact | May cause skin irritation. In case of contact, wash with plenty of soap and water. Seek medical attention if irritation persists. |
| Inhalation | May cause irritation, along with coughing. If respiratory irritation or distress occurs, remove victim to fresh air. Give oxygen and artificial respiration if needed. Seek medical attention if irritation persists. |

| | |
|---------------------------|--|
| Ingestion | Overdose symptoms may include numbness or tingling in hands or feet, uneven hear rate, paralysis, feeling faint, chest pain or heavy feeling, pain spreading to the arm or shoulder, nausea, diarrhea, sweating, general ill feeling, or seizure (convulsions). If the victim is conscious and alert, give 2-3 glasses of water to drink. If conscious, do not induce vomiting. Seek immediate medical attention. Do not leave the victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. |
| Notes to physician | Symptoms may be delayed. |
| General Advice | If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this material safety data sheet to the doctor in attendance. |

5. Fire Fighting Measures

| | |
|---|--|
| Flammable Properties | Not Flammable |
| Flash Point | Not Determined |
| Suitable Extinguishing Media | Non-combustible. Use Extinguishing media suitable for surrounding conditions. |
| Hazardous Combustion Products | Carbon and sulfur oxides |
| <u>Explosion Data</u> | |
| Sensitivity to Mechanical Impact | Not sensitive |
| Sensitivity to Static Discharge | Not sensitive |
| Unusual fire/explosion hazards | In a fire this material may decompose, releasing toxic and irritating oxides of carbon, sulfur, potassium, ammonia and nitrogen. |
| Protective Equipment | As in any fire, wear self-contained breathing apparatus in pressure-demand, NIOSH approved or equivalent and full protective gear. |

6. Accidental Release Measures

| | |
|--------------------------------------|---|
| Personal precautions | Avoid inhalation, and contact with skin, eyes, and clothing. |
| Personal Protective Equipment | Minimum – safety glasses, gloves, and a dust respirator. |
| Emergency Procedures | N/A |
| Methods for Containment | Prevent further leakage or spillage if safe to do so. |
| Methods for Clean Up | Avoid dust formation. Clean up released material using vacuum or wet sweep and shovel to minimize generation of dust. Bag and transfer to properly labeled containers. Ventilate area and was spill site after material pickup is complete. |
| Environmental Precautions | Prevent material from entering waterways. |
| Other | If Product is contaminated, use PPE and containment appropriate to the nature of the most toxic chemical/material in the mixture. |

7. Handling and Storage

| | |
|---|---|
| Personal Precautions | Use appropriate PPE when handling or maintaining equipment and wash thoroughly after handling (see Section 8). |
| Conditions for Safe Storage/Handling | Keep product in original container or fire suppression system unit. Contents may be under pressure – inspect the fire suppression system unit consistent with product labeling to ensure container integrity. |
| Incompatible Products | Do not mix with other extinguishing agents, particularly potassium bicarbonate and sodium bicarbonate. Incompatible with strong oxidizing agents and strong acids. Do not store in high humidity. Do not combine with chlorine compounds. |

8. Exposure Controls/Personal Protection

| Chemical Name | OSHA PEL | ACGIH TLV | DFG MAK* | EU BLV |
|-------------------------|--|---|---|--------|
| Mono-ammonium phosphate | PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10mg/m ³ Respirable fraction, 3 mg/m ³ | PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³ | NA |
| Ammonium Sulfate | PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10mg/m ³ Respirable fraction, 3 mg/m ³ | PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³ | NA |
| Mica | 6 mg/m ³ | 3 mg/m ³ | NR | NA |
| Attapulgite Clay | PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10mg/m ³ Respirable fraction, 3 mg/m ³ | PNOC Total dust, 4 mg/m ³ Respirable fraction, 1.5 mg/m ³ | |
| Silicone Oil | NR** | NR | NR | NA |
| Calcium Carbonate | PNOC** Total dust, 15 mg/m ³ Respirable fraction, 5 mg/m ³ | PNOC Total dust, 10mg/m ³ Respirable fraction, 3 mg/m ³ | ----- | NA |
| Amorphous Silica | 80 mg/m ³ % Silica | 10 mg/m ³ | 4 mg/m ³ | NA |
| Yellow 14 Pigment | NR | NR | NR | NA |

*Germany regulatory limits **PNOC = Particulates not otherwise classified (ACGIH) also known as Particulates not otherwise regulated (OSHA) *** NR = Not Regulated. All values are 8-hour time weighted average concentrations.

9. Physical and Chemical Properties

| | |
|------------------------------|---|
| Appearance | Light yellow powder, finely divided odorless solid. |
| Specific Gravity | (H ₂ O = 1): 1.80 |
| Solubility in Water | Slightly Water Soluble |
| Melting Point | 374°Fahrenheit / 190°Celsius |
| Freezing Point | No information available |
| Initial Boiling Point | No information available |
| Physical State | Crystalline Powder |
| pH | Mixture approximately 4 to 5; NH ₄ H ₂ PO ₄ : 4.2 in 0.2 molar solution; (NH ₄) ₂ SO ₄ : 5.5 in 0.1 molar solution |
| Flash Point | None |

| | |
|---|---------------------------|
| Auto-ignition Temperature | None |
| Flammability | Not Flammable |
| Flammability/Explosive Limits in Air | Upper – No; Lower – No |
| Explosive Properties | None |
| Oxidizing Properties | None |
| Volatile Component (%vol) | Not Applicable. |
| Evaporation Rate | No information available. |
| Vapor Density | No information available. |
| Viscosity | No information available. |

10. Stability and Reactivity

| | |
|---|---|
| Stability | Stable under recommended storage and handling conditions |
| Reactivity | No reactivity for these chemicals is expected. |
| Incompatibles | Strong alkalies (bases), magnesium, strong oxidizers, isocyanuric acids and chlorine compounds. |
| Conditions to Avoid | Storage or handling near incompatibles. |
| Hazardous Decomposition Products | Heat of fire may release carbon monoxide, carbon dioxide, and sulfur dioxide. Also, ammonia, oxides of phosphorus and nitrogen oxides may be released during decomposition. |
| Possibility of Hazardous Reactions | Slight |
| Hazardous Polymerization | Does not occur. |

11. Toxicological Information

| | |
|----------------------------------|-----------------------------------|
| Likely Routes of Exposure | Inhalation, skin, and eye contact |
| Symptoms Immediate | |
| Inhalation | Irritation, coughing. |
| Eyes | Irritation |
| Skin | Irritation |

| | |
|------------------------------|--|
| Delayed | Symptoms appear to be relatively immediate. |
| Acute Toxicity | Relatively non-toxic |
| Chronic Toxicity | |
| Short-term Exposure | None known. |
| Long-term exposure | As with all dusts, pneumoconiosis, or “dust lung” disease, may result from chronic exposure. |
| Reproductive Toxicity | This product’s ingredients are not known to have reproductive or teratogenic effects. |

12. Ecological Information

| | |
|---|--|
| Ecotoxicity | Harmful effects to aquatic organisms after long-term exposure. Provides nutrient nitrogen and phosphorus to plant life. |
| Persistence/Degradability | Degrades rapidly in humid/wet environment. |
| Probability of rapid biodegradation | NH ₄ H ₂ PO ₄ Est: 0.693 (Rapid); (NH ₄) ₂ SO ₄ : Est: 0.684 (Rapid) |
| Anaerobic biodegradation probability | NH ₄ H ₂ PO ₄ Est: 0.398 (Slow); (NH ₄) ₂ SO ₄ : Est: 0.398 (Slow) |
| Bioaccumulation potential | Low |
| Mobility in soil | Slow evaporation rate; water soluble; may leach to groundwater. |
| Other Adverse Ecological Effects | No other known effects at this time |

Aquatic Toxicity Values – Environment – Estimates

| Chemical Name | Acute (LC50) | EC50 |
|-------------------------|--|-------------------------------|
| Mono-ammonium phosphate | 2,91e+07 mg/L Fish 96 hr; 9.4e+06 mg/L Daphnid 48hr; | 6.70e+05 mg/L Gr. Algae 96 hr |
| Ammonium Sulfate | 2521 mg/L Fish 96 hr; 1244 mg/L Daphnid 48 hr; | 518 mg/L Gr. Algae 96 hr |

13. Disposal Considerations

| | |
|--------------------------------------|--|
| Safe Handling | Use appropriate PPE when handling and washing thoroughly after handling (see Section 8). |
| Waste Disposal Considerations | Dispose in accordance with federal, state, and local regulations. |
| Contaminated Packaging | Dispose in accordance with federal, state, and local regulations. |

Notes:

This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of it according to state or local laws, which may be more restrictive than federal laws or regulations. Used products may be altered or contaminated, creating different disposal considerations.

14. Transport Information

| | |
|--------------------------------|---------------|
| UN Number | NA |
| UN Proper Shipping Name | NA |
| Transport Hazard Class | NA |
| Packing Group | NA |
| Marine Pollutant | NO |
| IATA | Not Regulated |
| DOT | Not Regulated |

Notes:

This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada "Transportation of Dangerous Goods" regulations.

Special Precautions for Shipping:

The transportation information above covers the CF-33 Dry Chemical Agent as shipped in bulk containers and not when contained in a dry chemical fire suppression system. If shipped in a stored pressure-type fire suppression system, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire suppression system is considered a hazardous material by the U. S. Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class/division is LIMITED QUANTITY when pressurized to less than 241psig and when shipped via highway or rail. UN Class 2.2 Non-Flammable Gas, when shipping via air. Packing Group – N/A.

15. Regulatory Information

International Inventory Status:

All ingredients are in the following inventories.

| Country | Agency | Status |
|--------------------------|---------------|--------|
| United States of America | TSCA | Yes |
| Canada | DSL | Yes |
| Europe | EINECS/ELINCS | Yes |
| Australia | AICS | Yes |
| Japan | MITI | Yes |
| South Korea | KECL | Yes |

| European Risk and Safety Phrases | | |
|----------------------------------|----------|--|
| EU Classification | XN | Irritant |
| R Phrases | 20 | Harmful by inhalation |
| | 22 | Harmful if swallowed |
| S Phrases | 36/37/38 | Irritating to eyes, respiratory system and skin |
| | 22 | Do not breath dust |
| | 24/25 | Avoid contact with skin and eyes |
| | 26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice |
| | 36 | Wear suitable protective clothing |
| | 37/39 | Wear suitable gloves and eye protection |

U.S. Federal Regulatory Information

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) – This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372. None of the chemicals in this product are under SARA reporting requirements or have SARA threshold planning quantities (TPQs) or CERCLA reportable quantities (RQs) or are regulated under TSCA 8(d).

SARA 311/312 Hazard Categories:

| | |
|--|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| *-Sudden Release of Pressure Hazard | Yes |
| Reactive Hazard | No |

***- Only applicable if material is in a pressurized fire suppression system unit.**

Clean Water/Clean Air Acts

This product does not contain any substance regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42) or Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) and Section 112 of the Clean Air Act Amendments of 1990.

U.S. State Regulatory Information

Chemicals in the product are covered under specific State regulations, as denoted below:

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|--|---|
| Alaska – Designated Toxic and Hazardous Substance: | None |
| California – Permissible Exposure Limits for Chemical Contaminants: | None |
| California Proposition 65: | No component is listed on the California Proposition 65 list. |
| Florida – Substance List: | Mica Dust |
| Illinois – Toxic Substance List: | None |
| Kansas – Section 302/303 List: | None |
| Massachusetts – Substance List: | Mica Dust |
| Missouri – Employer Information/Toxic Substance List: | None |
| New Jersey – Right to Know Hazardous Substance List: | None |
| North Dakota – List of Hazardous Chemicals, Reportable Quantities: | None |
| Pennsylvania – Hazardous Substance List: | None |

| | |
|--|-----------|
| Rhode Island – Hazardous Substance List: | Mica Dust |
| Texas – Hazardous Substance List: | No |
| West Virginia – Hazardous Substance List: | None |
| Wisconsin – Toxic and Hazardous Substances: | None |

Other:

| | |
|------------------------------------|--|
| Mexico – Grade | No component listed. |
| Canada – WHMIS Hazard Class | Ammonium Sulfate listed as not a dangerous product according to HPR classification criteria. |

16. Other Information

This SDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format.

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| Issuing Date | 01-August-2003 |
| Revision Date | 21-June-2023 |
| Revision Notes | None |

The Information herein is given in good faith but no warranty, expressed or implied, is made.