

Material Safety Data Sheet

For Emergency Call: CHEMTREC -- (800) 424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Granular Triple Superphosphate (GTSP)

CAS Number: 65996-95-4

Chemical Name: Calcium phosphate, monobasic

Chemical Family: Acid phosphates

Synonyms and Common Trade Names: Triple super-phosphate; acid calcium phosphate; calcium biphosphate; monocalcium phosphate; calcium or concentrated super-phosphate: GTSP; Triple

Company Identification

Manufacturer's Name: CF Industries, Inc.

Address: One Salem Lake Drive, Long Grove, Illinois, 60047-8402

Telephone: (847) 438-9500

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	Typical Weight Percentage	CAS Number
Monocalcium phosphate	67	7758-23-8
Dicalcium phosphate	7	7757-93-9
Aluminum fluorophosphates	4	Not applicable
Iron fluorophosphates	4	Not applicable
Fluorapatite	4	1306-05-14
Water	4	7732-18-5
Calcium sulfate hydrate	3	7778-18-9
Sand	2	Not applicable
Orthophosphoric acid	2	7664-38-2
Miscellaneous metal and other compounds	<1 each	Not applicable

3. HAZARDS IDENTIFICATION

Emergency Overview

Warning! Direct contact with dusts may cause severe irritation and damage to the eyes. May cause irritation to the respiratory tract. Harmful if swallowed or inhaled. When heated to decomposition, may emit toxic decomposition products such as fluorides and phosphorous oxides.

Brown to gray granules that are odorless.

Potential Health Effects

Eyes: Contact may cause severe eye irritation, eye burns and permanent eye damage.

Skin: Contact may cause irritation including redness and a burning sensation. No harmful effects from skin absorption have been reported.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of hazard by skin irritation.

Ingestion (Swallowing): Low degree of toxicity by ingestion

Signs and Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting and diarrhea.

Cancer: No data available.

Target Organs: No data available.

Developmental: No data available.

Other Comments: Prolonged or repeated overexposure to fluoride compounds may cause fluorosis. Fluorosis is characterized by skeletal changes, consisting of osteosclerosis (hardening or abnormal density of bone) and osteomalacia (softening of bones) and by mottled discoloration of the enamel of teeth (if exposure occurs during enamel formation. Symptoms may include bone and joint pain and limited range of motion.

This material contains iron compound(s). Effects of overexposure to dusts can include irritation of the eyes and respiratory tract, pneumoconiosis (dust congested lungs), pneumonitis (lung inflammation), coughing, vomiting, diarrhea, abdominal pain and jaundice.

Medical Conditions Aggravated by Exposure: Respiratory illness, skin conditions

4. FIRST AID

Eyes: Hold eyelids open and flush eyes immediately with water for at least 15 minutes. Seek medical attention if necessary.

Skin: Wash affected areas with water. Get medical advice if irritation develops.

Inhalation: Move to fresh air and rest. Seek medical attention if necessary.

Ingestion: Give several glasses of water to drink to dilute. If large amounts are swallowed, seek medical attention immediately.

Notes to Physician: None

5. FIRE FIGHTING MEASURES

Granular triple superphosphate is not flammable.

Flash Point (test method): Not applicable

Flammable Limits: Not applicable

Explosive Limits: Not applicable

Autoignition Temperature: Not applicable

Extinguishing Media: Not applicable

NFPA Fire Rating:

Flammability	0
Health Hazard:	1
Reactivity:	0
Specific Hazard:	Not applicable

Key: Least = 0, Slight = 1, Moderate = 2, High = 3, Extreme = 4

Special Firefighting Procedures: Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive mode because toxic gases (small amounts of phosphorous oxides) can be emitted in fires.

6. ACCIDENTAL RELEASE MEASURES

Recover any reusable product taking care not to generate excess dust. Ventilate area of spill if necessary. Wear appropriate personal protective equipment as specified in Section 8.

Neutralizing Chemicals: Not applicable

7. HANDLING AND STORAGE

Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Keep away from extreme heat, which could decompose product and cause toxic decomposition products, such as fluorides and phosphorus oxides, to be emitted. Use appropriate techniques to suppress dust generation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Use process enclosure, general dilution ventilation, or local exhaust systems, where necessary, to maintain airborne dust concentrations below the OSHA standards.

Specific Personal Protective Equipment

Eyes: Safety glasses with side shields are recommended. Maintain eye wash fountain in work area.

Skin: Proper gloves are recommended.

Respiratory: Protection is not normally required. Use dust mask or other appropriate respiratory protection when engineering controls are not feasible or during operations that generate airborne concentrations exceeding the relevant standards.

Other: None

Exposure Guidelines*

Although standards for GTSP have not been established, the following nuisance dust standards are applicable.

ACGIH TLV: Inhalable particulate: 10 mg/m³ TWA
Respirable particulate: 3 mg/m³ TWA

OSHA PEL: Respirable fraction: 5 mg/m³ TWA
Total dust: 15 mg/m³ TWA

* TLV = Threshold Limit Values; PEL = Permissible Exposure Limits;
TWA = 8-hour Time-weighted Average

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Brown, gray granules

Odor: Odorless or possibly slight acidic odor

Odor threshold level: Not available

Physical state: Solid

pH: 2.5 -3.0 (aqueous solution)

Vapor pressure: Not applicable

Vapor density (air = 1): Not applicable

Boiling point: Not applicable

Melting point: Loses water at 212°F (100°C), decomposes at 392°F (200°C)

Solubility in water: Moderate

Specific gravity (H₂O = 1): 2.20 (heavier than water)

Evaporation rate (butyl acetate = 1): Not applicable

Percentage volatile by volume (%): Not applicable

Molecular weight: 234.06

Molecular formula: Ca(H₂PO₄)₂H₂O

10. STABILITY AND REACTIVITY

Stability (thermal, light, etc.): Stable under ordinary conditions of use and storage

Conditions to Avoid: High temperatures, at decomposition, may emit toxic fumes

Incompatibility (materials to avoid): No incompatibility data found

Hazardous Decomposition Products: Fluorides and phosphorous oxides

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Calcium Phosphate Monobasic

Rat LD₅₀ = 17,500 mg/kg

There is no definitive information available on carcinogenicity, mutagenicity, target organs or developmental toxicity for this product.

Iron Compounds

Target Organ(s): Chronic exposure to high concentrations of iron have been associated with, hemochromatosis and in severe cases, liver cirrhosis. Typical occupational exposures to iron compounds are not expected to cause these effects. Chronic inhalation can produce "mottling" of the lungs (siderosis). This is considered a benign pneumoconiosis and does not normally lead to fibrosis or cause significant physiologic impairment.

12. ECOLOGICAL INFORMATION

Large-scale release may lead to eutrophication of waterways. Notify local health and wildlife officials and operators of any nearby water intakes upon contamination of surface water.

Ecotoxicity Information: No toxicity observed in aquatic algae (*Selenastrum*) at concentrations up to 87.6 mg/L. Slight stimulation of growth at 42.6 mg/L and higher. Not toxic to algae, but can stimulate algal growth.

Environmental Fate Information: No data available

13. DISPOSAL CONSIDERATIONS

Granular triple superphosphate is not considered a hazardous waste under Federal Hazardous Waste Regulations 40 CFR 261. Processing, use or contamination of this product may change the waste management options. Consult local or state environmental regulatory agencies for acceptable disposal procedures and locations. Follow standard disposal procedures.

14. TRANSPORT INFORMATION

Granular triple superphosphate is not listed as a hazardous material by the U.S. Department of Transportation (DOT), Transport Canada (TC), the International Maritime Organization (IMO) or the United Nations (UN).

Proper Shipping Name: Chemicals, N.O.S. (non-regulated)

15. REGULATORY INFORMATION

OSHA (Occupational Safety and Health Administration): This material is considered to be hazardous as defined by the OSHA Hazard Communication Standard.

SARA TITLE III (Superfund Amendment and Reauthorization Act of 1986): This product contains the following toxic chemicals subject to the reporting requirements of Section 302 and/or Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372:

CAS No.	Chemical Name	Amount of Chemical in CFI Product (% by weight)	302 Threshold Planning Quantity for Chemical (lbs.)	313 De Minimis Concentration (% by weight)
7664-38-2	Phosphoric Acid	2.0	Not Listed	1.0

User should contact local and state regulatory agencies for information on additional or more stringent reporting requirements.

Note: A petition to remove phosphoric acid from the EPCRA Section 313 toxic chemical list was upheld by the U.S. District Court for the District of Columbia on April 20, 1999. Federal rule changes by the US Environmental Protection Agency are in progress to reflect the judicial ruling.

SARA 311/312: This product has been reviewed according to the U.S. EPA "Hazard Categories" promulgated under Sections 311 and 312 of SARA Title III and is considered, under applicable definitions, to meet the following categories.

Acute: yes Chronic: no Fire: no Reactivity: no

DOT (Department of Transportation): Please refer to Section 14 (Transport Information) for guidance concerning transportation.

This material has not been identified as a carcinogen by NTP, IARC or OSHA.

16. Documentary Information and DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Issue Date: 06/19/01
Previous Issue Date: 04/17/00

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