

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : Defluorinated phosphate (18% P)
Product code : DFP, DFPOS,ULTRADFP
Product group : Commercial product

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

Use of the substance/preparation : Animal and poultry feed.

1.3. Details of the supplier of the safety data sheet

PCS Sales (USA), Inc.
1101 Skokie Blvd.
Suite 400
Northbrook, IL 60062
T 800-241-6908 / 847-849-4200

Suite 500
122 1st Avenue South
Saskatoon, Saskatchewan Canada S7K7G3
T 800-667-0403 (Canada) / 800-667-3930 (USA)

SDS@PotashCorp.com - www.PotashCorp.com

1.4. Emergency telephone number

Emergency number : 800-424-9300
CHEMTREC

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GHS-US classification**

Skin Irrit. 2 H315
Eye Irrit. 2B H320
STOT SE 3 H335

2.2. Label elements**GHS-US labelling**

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H315 - Causes skin irritation
H320 - Causes eye irritation
H335 - May cause respiratory irritation

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Precautionary statements (GHS-US) : P261 - Avoid breathing dust
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of water
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER/doctor if you feel unwell
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations

2.3. Other hazards

Per OSHA 29 CFR 1910.1200(b)(5)(iii) labelling is not required for this product as labelling is covered under the requirements of the Food and Drug Administration (FDA) or the US Department of Agriculture (USDA).

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Tricalcium Phosphate, as $\text{Ca}_3(\text{PO}_4)_2$	(CAS No.) 1306-06-5	57	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
Rhenanite	(CAS No.) 15555-25-6	35	Not classified
Calcium silicate	(CAS No.) 1344-95-2	6	Eye Irrit. 2B, H320 STOT SE 3, H335
Metallic Impurities		2	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If medical advice is needed, have product container or label at hand.
First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.
First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists.
First-aid measures after eye contact : Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Obtain medical attention if irritation develops or persists.

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First-aid measures after ingestion : Do not induce vomiting. Seek medical attention if a large amount is swallowed. Get medical advice and attention if you feel unwell.

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

Symptoms/injuries : Irritation to eyes, skin and respiratory tract.
Symptoms/injuries after inhalation : Difficulty in breathing. Dry/sore throat.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : May cause eye irritation.
Symptoms/injuries after ingestion : If a large quantity has been ingested : Abdominal pain; Diarrhea; Nausea; Vomiting.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam, dry chemical, carbon dioxide (CO₂), water spray.
Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Tricalcium phosphate is a non-flammable inorganic salt. Under conditions of fire this material may produce: Oxides of calcium; Oxides of phosphorus.
Explosion hazard : Product is not explosive.
Reactivity : Stable at ambient temperature and under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Keep upwind. Not flammable.
Protection during firefighting : Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).
Other information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not breathe fumes from fires or vapours from decomposition.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. Tight fitting goggles should be worn in dusty areas to reduce dust exposure to the eyes
Emergency procedures : Collect as any solid. Ventilate area.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection.
Emergency procedures : If possible, stop flow of product. Contain and collect as any solid. Ventilate area.

6.2. Environmental precautions

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300. In other countries call CHEMTREC at (International code) +1-703-527-3887.

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6.3. Methods and material for containment and cleaning up

- For containment : Contain and collect as any solid. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.
- Methods for cleaning up : Recover the product by vacuuming, shoveling or sweeping. If uncontaminated, recover and use the product. If contaminated with other materials, collect in suitable containers.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.
- Hygiene measures : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store away from fire hazards.
- Incompatible materials : Strong oxidizers.

7.3. Specific end use(s)

Animal feed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Calcium silicate (1344-95-2)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (synthetic nonfibrous)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³

8.2. Exposure controls

- Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment : Gloves. Safety glasses. Protective clothing.



- Hand protection : Impermeable protective gloves.
- Eye protection : Protective goggles.
- Skin and body protection : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wear suitable protective clothing. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice.

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Respiratory protection	: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.
Environmental exposure controls	: Ensure adequate ventilation, especially in confined areas.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granules.
Colour	: Tan.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 7 (10% Slurry)
Molecular weight	: 310 (Tricalcium Phosphate) 158 (Rhenanite)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 1670 °C (3038 °F)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: > 1 g/cm ³ Bulk density: 85 to 100 lb/ft ³ (loose)
Solubility	: Negligible.
Log Pow	: No data available

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Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable at ambient temperature and under normal conditions of use.

10.2. Chemical stability

Stable at standard temperature and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids, bases.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Defluorinated phosphate (18% P)	
LD50 oral rat	> 2000 mg/kg OECD Guideline 425
LD50 dermal rat	> 5000 mg/kg OECD Guideline 402
ATE (oral)	6500 mg/kg

Phosphoric acid, calcium salt (2:3) (7758-87-4)	
Additional information	This compound is listed by the FDA as generally recognized as safe (GRAS) and may be used as a food additive, for both human food and ruminant feed, according to prescribed conditions.

Calcium silicate (1344-95-2)	
LD50 oral rat	3400 mg/kg

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Calcium silicate (1344-95-2)	
ATE (oral)	3400 mg/kg
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity:	EPA Ecological Toxicity rating :	No data available
	Acute Toxicity to Fish:	No data available
	Chronic Toxicity to Fish:	No data available
	Acute Toxicity to Aquatic Invertebrates:	No data available
	Toxicity to Aquatic Plants:	No data available
	Toxicity to Bacteria: (activated sludge):	No data available
	Toxicity to Soil Dwelling Organisms:	No data available
Environmental Fate:	Toxicity to Terrestrial Plants:	No data available
	Stability in Water:	Defluorinated Phosphate has negligible solubility in water.
	Stability in Soil:	No data available
	Transport and Distribution:	No data available
Toxicity:		No data available
Degradation Products:	Biodegradation:	No data available
	Photodegradation:	No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Waste disposal recommendations	: Place in an appropriate container and dispose of the contaminated material at a licensed site.
Additional information	: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

No dangerous good in sense of transport regulations.

14.2. UN proper shipping name

Not applicable

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14.2 Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Defluorinated phosphate (18% P)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Phosphoric acid, calcium salt (2:3) (7758-87-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium silicate (1344-95-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State regulations

The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.

Alaska	Indiana	Minnesota	North Carolina	Utah
Arizona	Iowa	Nevada	Oregon	Vermont
California	Kentucky	New Mexico	Puerto Rico	*Virgin Islands
*Connecticut	Maryland	*New Jersey	South Carolina	Virginia
Hawaii	Michigan	*New York	Tennessee	Washington
*Illinois				Wyoming

*The state plans in these states apply only to public sector employers. In these states private sector employers are subject to USOL – OSHA jurisdiction. All other state plans apply to both public and private sector employers.

Calcium silicate (1344-95-2)
U.S. - Hawaii - Occupational Exposure Limits - TWAs
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual

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Calcium silicate (1344-95-2)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

15.3. Canadian regulations

Defluorinated phosphate (18% P)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

Phosphoric acid, calcium salt (2:3) (7758-87-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Calcium silicate (1344-95-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

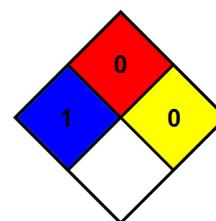
SECTION 16: Other information

Other information : This product is TSE/BSE (Transmissible Spongiform Encephalopathy/Bovine Spongiform Encephalopathy) free. No animal constituents are used in the manufacture of Defluorinated Phosphate for PCS Sales (USA) Inc. Our product is created through a chemical process.

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Full text of H- phrases:

Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	H335 -May cause respiratory irritation
H315	Causes skin irritation
H319	Causes serious eye irritation

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Previous PotashCorp MSDS Number : MSDS 8 – Defluorinated Phosphate (DFP)

Section(s) Updated : Section 2.3 – Other Hazards

Logo Change : No other changes made; kept date

SDS US (GHS HazCom 2012)

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