Material Safety Data Sheet

Phosphorus pentasulfide, 98+%

MSDS# 36635

Section 1 - Chemical Product and Company Identification

MSDS Name:	Phosphorus pentasulfide, 98+%
Catalog Numbers:	AC196720000, AC196720010, AC196720030, AC196720050, AC196725000
Synonyms:	Diphosphorus pentasulfide; Sulfur phosphide; Thiophosphoric anhydride.

Company Identification:	Acros Organics BVBA Janssen Pharmaceuticalaan 3a 2440 Geel, Belgium
Company Identification: (USA)	Acros Organics One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	800-ACROS-01
For information in Europe, call:	+32 14 57 52 11
Emergency Number, Europe:	+32 14 57 52 99
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300
CHEMTREC Phone Number, Europe:	703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#:	1314-80-3
Chemical Name:	Phosphorus pentasulfide
%:	98-100
EINECS#:	215-242-4

Hazard Symbols: XN F N



Risk Phrases: 11 20/22 29 50

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Flammable solid. Causes respiratory tract irritation. Water-reactive. May cause central nervous system effects. Stench. Harmful if inhaled or swallowed. Causes severe eye and skin irritation. May ignite or explode on contact with moist air. Reacts with water to form hydrogen sulfide, sulfur dioxide, and phosphoric acid. Target Organs: Central nervous system, respiratory system, eyes, skin.

Potential Health Effects

Eye:	Contact may cause severe eye irritation and possible eye damage.
Skin:	Causes severe skin irritation.
Ingestion:	Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation:	May cause respiratory tract irritation. Vapors may cause dizziness or suffocation. Inhalation of high concentrations may cause pulmonary edema.
Chronic:	Prolonged exposure to hydrogen sulfide may result in pulmonary edema.

Section 4 - First Aid Measures

Eyes:	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin:	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion:	Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation:	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician:	

Section 5 - Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Water reactive. Material will react with water and may release a flammable and/or toxic gas. Containers may explode in the heat of a fire. Flammable solid. May ignite or explode on contact with steam or moist air. Dangerous fire hazard in the form of dust when exposed to heat or flame.
Extinguishing Media:	Use dry sand or earth to smother fire. Water may be ineffective. Do NOT use straight streams of water. DO NOT USE WATER OR FOAM. For large fires, use dry sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. For small fires, use dry chemical, soda ash, lime or dry sand.
Autoignition Temperature:	142 deg C (287.60 deg F)
Flash Point:	Not available
Explosion Limits: Lower:	N/A
Explosion Limits: Upper:	N/A
NFPA Rating:	; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Cover with sand, dry lime or soda ash and place in a closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not expose spill to water. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not allow water to get into the container because of violent reaction. Minimize dust generation and accumulation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not allow contact with water. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.
Storage:	Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Flammables-area. Keep away from acids. Keep containers tightly closed. Store away from alkalies. Separate from organic materials.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phosphorus pentasulfide	1 mg/m3; 3 mg/m3 STEL	1 mg/m3 TWA 250 mg/m3 IDLH	1 mg/m3 TWA

OSHA Vacated PELs: Phosphorus pentasulfide: 1 mg/m3 TWA

Engineering Controls:

Use explosion-proof ventilation equipment. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Personal Protective Equipment

Eyes:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin:	Wear appropriate protective gloves to prevent skin exposure.
Clothing:	Wear appropriate protective clothing to prevent skin exposure.
Respirators:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Physical State:
Color:	gray to yellow-green
Odor:	stench
pH:	Not available
Vapor Pressure:	1 mmHg @ 300 C
Vapor Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	514 deg C @ 760.00mm Hg (957.20°F)
Freezing/Melting Point:	286.00 - 290.00 deg C
Decomposition Temperature:	Not available
Solubility in water:	insoluable in cold water
Specific Gravity/Density:	2.0300g/cm3
Molecular Formula:	P4S10
Molecular Weight:	444.48

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures. Combines vigorously or explosively with water. Contact with water or acids liberates poisonous and flammable hydrogen sulfide. Reaction with water also yields phosphoric acid, and sulfur dioxide.
Conditions to Avoid:	Ignition sources, dust generation, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials	Oxidizing agents, acids, alcohols, alkalis, water, steam.
Hazardous Decomposition Products	Phosphine, oxides of phosphorus, hydrogen sulfide.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 1314-80-3: TH4375000
LD50/LC50:	RTECS: **CAS# 1314-80-3:** Draize test, rabbit, eye: 20 mg/24H Moderate; Draize test, rabbit, skin: 500 mg/24H Moderate; Oral, rat: LD50 = 389 mg/kg; Skin, rabbit: LD50 = 3160 mg/kg; .
Carcinogenicity:	Phosphorus pentasulfide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	Standard Draize Test: Skin-Rabitt = 500 mg/24 H (Moderate) Eye-Rabitt = 20 mg/24H (Moderate)

Section 12 - Ecological Information

Other: No information available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: PHOSPHORUS PENTASULFIDE
Hazard Class: 4.3
UN Number: UN1340
Packing Group: II
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

USA RQ: CAS# 1314-80-3: 100 lb final RQ; 45.4 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN F N

Risk Phrases:

R 11 Highly flammable.

R 20/22 Harmful by inhalation and if swallowed.

R 29 Contact with water liberates toxic gas.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 1314-80-3: 2

Canada

CAS# 1314-80-3 is listed on Canada's DSL List

Canadian WHMIS Classifications: B4, D2B, D1B, F

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

CAS# 1314-80-3 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 1314-80-3 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/03/1998

Revision #6 Date 7/20/2009

event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
