

Material Safety Data Sheet

Phosphorus, Red, 99%

ACC# 68649

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphorus, Red, 99%**Catalog Numbers:** AC198080000, AC198085000, AC9540096, AC19808110**Synonyms:** None**Company Identification:**Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410**For information in North America, call:** 800-ACROS-01**For emergencies in the US, call CHEMTREC:** 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7723-14-0	Phosphorus, red	99	231-768-7

Hazard Symbols: F**Risk Phrases:** 11 16

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: dark red. Flammable solid. May cause liver and kidney damage. **Danger!** May cause severe eye irritation and possible injury. May cause skin irritation. Light sensitive. Highly toxic. May cause respiratory and digestive tract irritation. May be fatal if swallowed.

Target Organs: Kidneys, liver.

Potential Health Effects

Eye: May cause eye irritation. May result in corneal injury.**Skin:** May cause skin irritation. Prolonged and/or repeated contact may cause irritation and/or dermatitis.**Ingestion:** May be fatal if swallowed. May cause irritation of the digestive tract. May cause liver and kidney damage.**Inhalation:** May cause respiratory tract irritation.**Chronic:** Prolonged or repeated skin contact may cause dermatitis. May cause liver and kidney damage. Chronic exposure can lead to necrosis of the jaw, or 'phossy-jaw'.

Section 4 - First Aid Measure



Eyes: Immediately flush eyes with plenty of water for at least 15 min 948 seconds. Gently lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: 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 to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

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. Containers may explode in the heat of a fire. This material is readily combustible and may ignite if exposed to friction. Flammable solid. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May re-ignite after fire is extinguished.

Extinguishing Media: For small fires, use dry chemical, sand, water spray, or foam. For large fires, use water spray, fog or regular foam. Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Cover with sand and place into a closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Store protected from light. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phosphorus, red	0.02 ppm TWA	0.1 mg/m ³ TWA 5 mg/m ³ IDLH	0.1 mg/m ³ TWA

OSHA Vacated PELs: Phosphorus, red: 0.1 mg/m³ TWA

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 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: dark red

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 4.77

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 416 deg C (sublimes)

Freezing/Melting Point: 416 deg C

Autoignition Temperature: 260 deg C (500.00 deg F)

Flash Point: Not available.

Decomposition Temperature: 290 deg C

NFPA Rating: (estimated) Health: 1; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: None available

Upper: None available

Solubility: Insoluble in water.

Specific Gravity/Density: 2.34

Molecular Formula: P

Molecular Weight: 30.9738

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, light, ignition sources, dust generation, excess heat, strong oxidants.

Incompatibilities with Other Materials: Red, white and yellow phosphorus reacts explosively with a large number of compounds and elements. Please refer to NFPA 's Fire Protection guide to Hazardous Materials for details. May explode on contact with oxidizing materials. Produces acrid fumes in air. Can be ignited by friction, static electric discharge, heating and mixing with strong oxidizing agents. Reacts with halogens, halides, sulfur and oxidizing materials.

Hazardous Decomposition Products: Phosphine, oxides of phosphorus, irritating and toxic fumes and gases.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 7723-14-0: TH3495000; TH3500000

LD50/LC50:

CAS# 7723-14-0:

Oral, mouse: LD50 = 4820 ug/kg;

Oral, rat: LD50 = 3030 ug/kg;

Carcinogenicity:

CAS# 7723-14-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: Not available.

Teratogenicity: Not available.

Reproductive Effects: Not available.

Neurotoxicity: No information reported

Mutagenicity: Not available.

Other Studies: None.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: No information reported.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	PHOSPHORUS, AMORPHOUS				PHOSPHORUS, AMORPHOUS
Hazard Class:	4.1				4.1(9.2)
UN Number:	UN1338				UN1338
Packing Group:	III				III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7723-14-0 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 7723-14-0: Effective date: April 12, 1993; Sunset Date: June 30, 1998

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA**Section 302 (RQ)**

CAS# 7723-14-0: final RQ = 1 pound (0.454 kg)

Section 302 (TPQ)

CAS# 7723-14-0: TPQ = 100 pounds (This material is a reactive solid. The TPQ does not default to 10,000 pounds for non-powder, non-molten, non-solution form); RQ = 1 pound (revised TPQ based on new or re-evalu

SARA Codes

CAS # 7723-14-0: acute, chronic, flammable.

Section 313

This material contains Phosphorus, red (CAS# 7723-14-0, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 7723-14-0 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 7723-14-0 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7723-14-0 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

F

Risk Phrases:

R 11 Highly flammable.

R 16 Explosive when mixed with oxidizing substances.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36 Wear suitable protective clothing.

S 43 In case of fire, use ... (indicate in the space the precise type of fire-fighting equipment. If water increases the risk, add - never use water).

S 7 Keep container tightly closed.

S 43C In case of fire, use limestone powder, sodium chloride or dry sand (never use water).

S 43E In case of fire, use dry sand (never use water).

WGK (Water Danger/Protection)

CAS# 7723-14-0: No information available.

Canada

CAS# 7723-14-0 is listed on Canada's DSL List. CAS# 7723-14-0 is listed on Canada's DSL List. This product does not have a WHMIS classification.

CAS# 7723-14-0 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7723-14-0: OEL-ARAB Republic of Egypt:TWA 0.1 mg/m³ OEL-AUSTRIA:TWA 0.1 mg/m³ OEL-BELGIUM:TWA 0.1 mg/m³ OEL-CZECHOSLOVAKIA:TWA 0.3 mg/m³;STEL 0.06 mg/m³ OEL-DENMARK:TWA 0.1 mg/m³ OEL-FINLAND:STEL 0.1 mg/m³;Skin OEL-FRANCE:TWA 0.1 mg/m³;STEL 0.3 mg/m³ OEL-GERMANY:TWA 0.1 mg/m³ OEL-HUNGARY:TWA 0.3 mg/m³;STEL 0.06 mg/m³ OEL-JAPAN:TWA 0.1 mg/m³ OEL-THE NETHERLANDS:TWA 0.1 mg/m³ OEL-THE PHILIPPINES:TWA 0.1 mg/m³ OEL-POLAND:TWA 0.3 mg/m³ OEL-RUSSIA:STEL 0.03 mg/m³ OEL-SWITZERLAND:TWA 0.1 mg/m³;STEL 0.2 mg/m³ JAN9 OEL-THAILAND:TWA 0.1 mg/m³ OEL-TURKEY:TWA 0.1 mg/m³ OEL-UNITED KINGDOM:TWA 0.1 mg/m³;STEL 0.3 mg/m³

Section 16 - Additional Information

MSDS Creation Date: 8/07/1998

Revision #2 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher 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 Fisher has been advised of the possibility of such damages.