

Yangzhou Sunchem Co.,Ltd.

Material Safety Data Sheet

Triphenyl phosphate(TPP)

Section 1 - Chemical Product and Company Identification

MSDS Name: Triphenyl phosphate

Synonyms: TPP.

Company Identification:

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Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
115-86-6	Triphenyl phosphate	99+	204-112-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white flakes.

Warning! Causes eye and respiratory tract irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause skin irritation. May cause central nervous system depression.

Target Organs: Central nervous system, liver, respiratory system, eyes.

Potential Health Effects

Eye: Causes eye irritation.

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed. May cause central nervous system depression.

Inhalation: Causes respiratory tract irritation. May be harmful if inhaled. May cause central nervous system effects.

Chronic: Chronic exposure may cause liver damage. High or repeated exposure may damage the nerves causing weakness.

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.

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

Ingestion: Do not induce vomiting. Get medical aid.

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: 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.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: 220 deg C (428.00 deg F)

Autoignition Temperature: 500 deg C (932.00 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

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

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Storage: Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Triphenyl phosphate	3 mg/m3 TWA	3 mg/m3 TWA 1000 mg/m3 IDLH	3 mg/m3 TWA

OSHA Vacated PELs: Triphenyl phosphate: 3 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 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: Flakes

Appearance: white

Odor: odorless

pH: Not available.

Vapor Pressure: 1.3 hPa @ 193 deg C

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 370 deg C @ 760 mmHg

Freezing/Melting Point: 47 - 53 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: Not available.

Molecular Formula: C₁₈H₁₅O₄P

Molecular Weight: 326.28

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials: Oxidizing agents.

Hazardous Decomposition Products: Phosphine, carbon monoxide, oxides of phosphorus, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 115-86-6: TC8400000

LD50/LC50:

CAS# 115-86-6:

Dermal, guinea pig: LD50 = >4 gm/kg;

Oral, mouse: LD50 = 1320 mg/kg;

Oral, rat: LD50 = 3500 mg/kg;

Skin, rabbit: LD50 = >7900 mg/kg;

Carcinogenicity:

CAS# 115-86-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.3 mg/L; 96 Hr.; Unspecified Fish: Fathead Minnow: LC50 = 0.87 mg/L; 96 Hr.; Flow-through Fish: Bluegill/Sunfish: LC50 = 290.0 mg/L; 96 Hr.; Static Condition Water flea Daphnia: EC50 = 1.0 mg/L; 48 Hr.; Unspecified No data available.

Environmental: TERRESTRIAL FATE: Biodegradation is expected to be the dominant fate process of triphenyl phosphate (TPP) in soil; screening tests exhibited aerobic half-lives of about 4 days or less in natural waters. Aqueous hydrolysis is expected to aid in soil degradation especially under alkaline conditions (half-lives of 0.23 to 7.5 days at pH 9.5 to pH 8.2). Based on an estimated Koc range of 3,066 to 7,481, TPP should be slightly mobile to immobile in soil. Biodegradation is an important removal process in aerobic waters with aerobic half-lives of about 4 days or less.

Physical: Vapor phase triphenyl phosphate is degraded in the ambient atmosphere by reaction

with photochemically formed hydroxyl radicals; the half-life for this reaction in air can be estimated to be about 1.4 days. Particulate phase triphenyl phosphate may be susceptible to dry deposition and wet deposition (rainfall).

Other: Do not empty into drains.

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	Canada TDG
Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE (Triphenyl phosphate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE (Triphenyl phosphate)
Hazard Class:	9	9
UN Number:	UN3077	UN3077
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 115-86-6 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

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.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances 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# 115-86-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

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:

N

Risk Phrases:

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 29 Do not empty into drains.

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

WGK (Water Danger/Protection)

CAS# 115-86-6: 2

Canada - DSL/NDSL

CAS# 115-86-6 is listed on Canada's DSL List.

Canada - WHMIS

not available.

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.

Canadian Ingredient Disclosure List

CAS# 115-86-6 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

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.