

SECTION 1: Identification

1.1 Product identifier

Trade name: PyroVex[®] P-113

Chemical Name and Synonyms:

Phosphoric acid triethyl ester; Triethyl phosphate; TEP

CAS-No. : 78-40-0

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

1.2.1 Relevant identified uses: As a plasticizer, solvent, fire-retarding agent, anti-foaming agent, and as ethylating agent; formation of polyesters which are used as insecticides.

1.2.2 Recommended restrictions on use: Professional users only.

1.3 Details of the supplier of the safety data sheet

Velsicol Chemical LLC

10400 W. Higgins Road
Rosemont, Illinois 60018 USA
Phone: (847) 813-7888
Fax: (847) 768-3227
Email: customerservice@velsicol.com

1.4 Emergency telephone number

Outside the continental U.S.A. call CHEMTREC 1-800-424-9300 (24 hours)
In the continental U.S.A. call CHEMTREC 703-527-3887 (24 hours)

SECTION 2: Hazards Identification

2.1 Hazard classification and Hazard statement(s)

Hazard classification	Hazard statement(s)
Acute Toxicity 4	Harmful if swallowed.
Eye Irritation 2A	Causes serious eye irritation

2.2 Precautionary statements

Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Signal Word: Warning

2.4 Pictograms:



2.5 Other hazards:

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.
Ingestion: Harmful if swallowed.



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2.6 Additional Information:

HMIS Rating: Health Hazard: 2; Fire: 1; Reactivity Hazard: 1

NFPA Rating: Health Hazard: 2; Fire: 1; Reactivity Hazard: 1

SECTION 3: Composition/information on ingredients:

3.1 Substance:

Chemical Name	Common name and synonyms	CAS number	% by Weight
Phosphoric acid triethyl ester	Triethyl phosphate; TEP	78-40-0	>95.5

3.2 Impurities and stabilizing additives

No information available

SECTION 4: First-Aid Measures

4.1 Description of first aid measures

4.1.1 General information:

Inhalation and skin contact are expected to be the primary routes of occupational exposure.

4.1.2 Following inhalation:

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air.

IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop.

4.1.3 Following skin contact:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.

IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop.

IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

4.1.4 Following eye contact:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.

IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop.

IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

4.1.5 Following ingestion:

DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, administer a slurry of activated charcoal in water and simultaneously call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.

If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

4.1.6 Self-protection of the first aider:

Wear protective gloves/protective clothing/eye protection/face protection. Do not get in eyes, on skin, or on clothing. Contaminated work clothing should not be allowed out of the workplace.

4.1.7 Notes for the doctor:

May causes cholinesterase inhibition but to lesser degree than parathion. May be expected to cause nerve injury similar to that of other phosphate esters.

4.2 Most important symptoms and effects, both acute and delayed



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See the labelling (see section 2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatments needed:

Not available.

SECTION 5: Fire-Fighting Measures

5.1 Extinguishing media

Flammability Properties: Combustible, flammable Limits in Air: 1.2 - 10%

Suitable extinguishing media: Dry chemical, carbon dioxide or foam, or halon extinguisher.

Unsuitable extinguishing media: DO NOT use water jet.

5.2 Special hazards arising from the substance or mixture

May produce hazardous decomposition products such as carbon dioxide, carbon monoxide and oxides of phosphorus.

5.3 Advice for fire fighters

This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. Firefighters and others who may be exposed to products of combustion should wear full firefighting turnout gear and self-contained breathing apparatus (MSHA-NIOSH approved).

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent possible contamination of skin, eyes and personal clothing.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let this chemical enter the environment.

6.3 Methods and materials for containment and clearing up

If spilled, stop the leak if possible. Absorb with an inert material and put the spilled material in an appropriate waste disposal. Use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution.

6.4 References to other sections

See sections 7, 8 and 13 for further advice.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Handle with caution and minimize exposure. Keep away from heat, sun light and sources of ignition. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Do not breathe gas, fumes, vapor or spray. Wear suitable protective clothing. Use with adequate

7.2 Conditions for safe storage, including any incompatibilities

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from heat, sun light and away from oxidizing agents. Keep away from sources of ignition.

Specific incompatibilities

No known.

7.3 Specific end uses(s)

Raw industrial material.



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SECTION 8. Exposure Controls/Personal Protection

8.1 Control parameters

Occupational exposure may occur through inhalation and dermal contact. No exposure limits have been established for this product.

8.2 Exposure controls

8.2.1 Appropriate engineering controls:

Provide ventilation if necessary to minimize exposure. Establish a patent airway. Suction if necessary. Aggressive airway control may be needed. Ensure that eyewash station and safety shower is proximal to the work-station location. Keep away from sources of ignition.

8.2.2 Personal protective measures:

Handle in accordance with good industrial hygiene and safety practice. Remove all contaminated clothing. Wash hands before breaks and at the end of work.

Respiratory protection

Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

Body Protection

Protective clothing, including gloves to provide an impervious barrier to prevent dermal exposure.

Eye and face protection

Safety glasses with side-shields for eye protection

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.3 Environmental exposure controls:

Discharge into the environment must be avoided.

Do not contaminate water. Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Clear Liquid

Color: Colorless

Odor: Mild, Pleasant smelling

Odor threshold: No information available.

pH: no data available

Boiling point (average): 215.5°C

Melting point/freezing point (average): - 56.4°C,

Flashpoint: 115°C (240°F, open cup)

Evaporation rate: No information available.

Flammability: Slightly when exposed to heat or flame

Flammable Limits: in Air: 1.2 - 10%

Vapor pressure: 0.39 mm Hg at 25°C

Vapor density: 6.28 (Air= 1)

Specific Gravity: 1.068

Solubility in water: Soluble, slight decomposition in water



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Solubility in other solvents: soluble in most organic solvents, alcohol, ether

Surface tension: no data available

Partition coefficient: Log Kow = 0.80

Auto ignition temperature: 454 °C (845°F)

Decomposition temperature: Not available

Viscosity cps at 20 °C: 1.76

Explosive properties: no data available

Oxidizing properties: no data available

Dissociation Constant: no data available

Molecular Weight: 182.154

9.2 Other information:

No information available.

SECTION 10: Stability and Reactivity

10.1 Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability

This material is stable if stored under proper conditions. (See Section 7 for instructions)

10.3 Others

Possibility of hazardous reactions:

No hazardous reactions expected under normal conditions of use.

Conditions to avoid:

Avoid heat and oxidizing agents

Incompatible materials:

React vigorously with oxidizing materials.

Hazardous decomposition products:

Toxic gases and vapors (such as oxides of phosphorus and carbon monoxide)

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Velsicol Chemical LLC has not conducted toxicity tests on this substance. However, toxicity data are available for this or similar substances.

a) Acute toxicity

Acute Toxicity 4, Harmful if swallowed.

LD50 oral rat = 1311 mg/kg

LD50 oral mouse = 1500 mg/kg

LD50 oral guinea pig = 1600 mg/kg

LCLo inhalation rat = > 28000 ppm/6H;

LD50 dermal guinea pig >20 mL/kg

b) Skin corrosion/irritation

Skin Irritant, not classified

c) Serious eye damage/irritation

Eye Irritation 2A: Causes serious eye irritation

d) Respiratory/skin sensitization

Not classified



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- e) **Germ cell mutagenicity**
Not classified as a carcinogen or mutagen or toxic for reproduction.
- f) **Carcinogenicity**
Not classified as a carcinogen or mutagen or toxic for reproduction.
- g) **Reproductive toxicity**
LCLo Oral rat = 57 mg/kg, female 92 day(s) pre-mating; female 1-22 day(s) after conception

Not classified as a carcinogen or mutagen or toxic for reproduction.
- h) **STOT-single exposure**
Not classified
- i) **STOT-repeated exposure**
Not classified
- j) **Aspiration hazard**
No data available
- k) **Additional Information**
No data available

SECTION 12: Ecological Information

12.1. Toxicity

Velsicol Chemical LLC has not conducted toxicity tests on this substance. However, some data are available on the components of this material.

Acute/prolonged toxicity to fish (*Leuciscus idus*) LC50 (48 hr) = 2140 mg/l

Acute/prolonged toxicity to aquatic invertebrates (*daphnia*) EC50 (48 hr) = 350 mg/l

Toxicity to aquatic plants (*algae*) EC50 (72 hr) = 900 mg/l

12.2 Persistence and degradability

The half-life due to photochemical-oxidative degradation in the atmosphere is between 7 and 8.8 hours.

12.3 Bioaccumulative potential

TEP has a low tendency for bioaccumulation; its measured BCFs are <1.3.

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

Not B and not vB. Not B and not vB.

12.6 Other adverse effects

Not available

SECTION 13: Disposal Considerations

Should be disposed all waste and contaminated materials associated with this chemical as specified by existing local, state and federal regulations concerning hazardous waste disposal.

It is suggested that contaminated materials should be destroyed by incineration in a special, high temperature (>2000 degrees F) chemical incinerator facility.



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SECTION 14: Transport Information

DOT (US): Not dangerous goods

ADR, IATA, RID and IMDG: Not regulated

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

United States - TSCA Section 8(b) CHEMICAL INVENTORY

Canada - Domestic Substances List (DSL)

European Inventory of Existing Commercial Chemical (EINECS # 201-114-5)

Australia - Inventory of Chemical Substances (AICS)

China - Inventory of Existing Chemical Substances (IECSC)

Japan - Existing and New Chemical Substances (ENCS) ((9)-2000)

Korea - Existing and Evaluated Chemical Substances (KECL) (KE-28646)

New Zealand - Inventory of Chemicals (NZIoC HSNO#: HSR002797)

Philippines - Inventory of Chemicals and Chemical Substances (PICCS)

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Pennsylvania Right To Know Components

New Jersey Right To Know Components

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

WHMIS (Canada): Not controlled under WHMIS (Canada).

15.2 Chemical Safety Assessment

No information available.

SECTION 16: Other Information

16.1 Indication of changes

This is the first SDS under OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)) 06, May 2015

V2: Change to Velsicol new format and change ResNovae to PyroVex, 26 Sep. 2016

16.2 Key literature references and sources for data

REGISTRY Database, Chemical Abstract Service

CHEMLIST Database, Chemical Abstract Service

Ariel WebInsight, 3E Company.com

UNEP OECD SIDS for CAS # 78-40-0

European Union Risk Assessment Report (May 2008)

Hazardous Substance Data Bank (HSDB#: 2536)

Registry of Toxic Effects of Chemical Substances (RTECS#: TC7900000)



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16.3 Training advice: accordance with Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))

16.4 Further information: Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.