

PE621Version 3.0
Document no. 130000142706Revision Date 2018/02/15
Issue Date 2023/07/14

This SDS adheres to the standards and regulatory requirements of China and may not meet the regulatory requirements in other countries.

Section 1 - Chemical and Enterprise Identification**Product name** : PE621**Product name in English** : PE621**Recommended use of the chemical and restriction on use**Recommended use : For industrial use only.
Paste for electronic industry

Restrictions on use : Do not use product for anything outside of the above specified uses.

Manufacturer, importer, supplierCompany : Celanese (Shanghai) International Trading Co., Ltd
Street address : 4560 Jinke Road, Zhangjiang, Pudong Shanghai, China 201210

E-mail address : HazCom@celanese.com

Emergency telephone number : CHEMTREC International: +1-703-527 3887, +86 532 8388-9090 (China, 24h)**Date of first preparation** : 2015/10/19**Section 2 - Hazard Identification****GHS Hazard Category**Acute toxicity (Oral) : Category 4
Serious eye damage/eye irritation : Category 2A
Specific target organ toxicity - single exposure : Category 3

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

Label content

Pictogram :



Signal word : Warning

Hazardous warnings : Harmful if swallowed.
Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.

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Precautionary
statements

: **Preventive Measures:**

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.

Accident Response:

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
If eye irritation persists: Get medical advice/ attention.

Safe Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Waste Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Main Symptom After Contact

No information available.

Section 3 - Ingredients/Composition Information

Chemical nature : Mixture

Components

Chemical name	CAS-No.	Concentration
Triethyl Phosphate	78-40-0	50 - 60%
Polyvinylidene fluoride/hexafluoropropene	9011-17-0	20 - 30%
Graphite	7782-42-5	10 - 20%

Section 4 - First-aid Measures

Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact : Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.

Eye contact : Immediately flush eyes for at least 15 minutes. Get medical attention.

Ingestion : If swallowed Rinse mouth with water. Call a physician or poison control centre immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center.

Most important symptoms/effects, acute and delayed : No information available.

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- Protection of first-aiders** : No information available.
- Notes to physician** : No information available.

Section 5 - Fire-fighting Measures

- Suitable extinguishing media** : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray, Dry chemical, Carbon dioxide (CO₂)
- Specific hazards** : Hazardous decomposition products formed under fire conditions. (see also section 10) Avoid breathing decomposition products.
- Special protective equipment for firefighters** : Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus for firefighting if necessary.
- Specific extinguishing methods** : No information available.
- Further information** : Evacuate personnel to safe areas. Stop spill/release if it can be done with minimal risk. Do not allow run-off from fire fighting to enter drains or water courses.

Section 6 - Leak Emergency Treatment

- Protective measures, devices and emergency treatment procedure for workers** : Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wear suitable protective equipment.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Clean contaminated floors and objects thoroughly while observing environmental regulations.
- Methods and materials for containment and cleaning up** : Contain spill. Soak up with inert absorbent material. Collect and contain contaminated absorbent and dike material for disposal. Keep in suitable, closed containers for disposal. Ventilate the area. Clean contaminated surface thoroughly.
- Prevention of secondary hazards** : No information available.
- Additional advice** : Dispose of in accordance with local regulations.

Section 7 - Operation Handling and Storage**Operation Handling**

- Technical measures/Precautions** : Avoid inhalation, ingestion and contact with skin and eyes. Do not use in areas without adequate ventilation. Keep container closed when not in use. Take care to avoid waste and spillage when weighing, loading and mixing the product.

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Precautions for safe handling : Avoid formation of dust and aerosols. Keep away from heat and sources of ignition.

Storage

Suitable storage conditions : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from sources of ignition - No smoking. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Keep container closed when not in use. Do not reuse empty container.

Storage period: Stable under normal conditions.

Section 8 - Exposure Control and Personal Protection**Control parameters**

Applicable occupational exposure limits are listed below.

Chemical name	Occupational Exposure Limits	Regulation
Graphite		
TWA	2 mg/m ³ (Respirable dust.)	GBZ 2.1
TWA	4 mg/m ³ (Total dust.)	GBZ 2.1
TWA	2 mg/m ³ (Respirable fraction.)	US ACGIH

Engineering controls : Local exhaust or a laboratory hood should be used when handling the materials. Maintain air concentrations below occupational exposure standards.

Biological occupational exposure limits : No information available.

Personal protective equipment

Respiratory protection : Provide adequate ventilation. No personal respiratory protective equipment normally required. Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.
Persons performing maintenance or repairs on exhaust system equipment (e.g. ducts) may need to use respirators and protective clothing to prevent exposure to any accumulated residues.

Hand protection : Material: Impervious gloves
Gloves must be inspected prior to use., Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough., The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other., The exact break through time can be obtained from the protective glove producer and this has to be observed., Please observe the instructions regarding permeability and

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breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

- Eye protection : Wear safety glasses with side shields.
- Skin protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Lightweight protective clothing
Safety shoes
- Hygiene measures** : Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Contaminated work clothing should not be allowed out of the workplace. Remove contaminated clothing and protective equipment before entering eating areas. Remove and wash contaminated clothing before re-use.

Section 9 - Physical and Chemical Properties**Appearance (Physical state, form, colour, etc.)**

- Physical state : liquid
Form : viscous liquid
Colour : black

Odour : slight

Odour Threshold : No information available.

pH : No information available.

Melting point/freezing point

No information available.

Boiling point, initial boiling point and boiling range

No information available.

Flash point : 121 °C
Method: closed cup

Evaporation rate : No information available.

Flammability (solid, gas) : No information available.

Upper/lower flammability or explosive limits

- Upper explosion limit : No information available.
Lower explosion limit : No information available.

Vapour pressure : No information available.

Vapour density : No information available.

Density
Density : 1.36 g/cm³ (20 °C)

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Solubility(ies)

Water solubility : immiscible

Partition coefficient: n-octanol/water

: No information available.

Auto-ignition temperature

No information available.

Decomposition temperature

: No information available.

Viscosity

Viscosity, kinematic : > 20.5 mm²/s (40 °C)
estimated

Molecular weight

: No information available.

Section 10 - Stability and Reactivity**Reactivity**

: No dangerous reaction known under conditions of normal use.

Chemical stability

: The product is chemically stable under recommended conditions of storage, use and temperature.
Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions

: Polymerization will not occur.

Conditions to avoid

: To avoid thermal decomposition, do not overheat.

Materials to avoid

: Acids, bases and strong oxidizing agents

Hazardous decomposition products

: No decomposition if stored and applied as directed.

Hazardous thermal decomposition products may include:, Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)., Fluorinated compounds, Hydrogen fluoride, phosphorous oxides

Section 11 - Toxicological Information**Acute toxicity**

Oral

Triethyl Phosphate : LD50/Rat: 1,165 mg/kg
Target Organs: Central nervous system
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
Central nervous system effects

Polyvinylidene fluoride/hexafluoropropene : LD50/Rat: > 5,000 mg/kg
The substance or mixture has no acute oral toxicity

Graphite : LD50/Rat: > 2,000 mg/kg
Method: OECD Test Guideline 423

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		The substance or mixture has no acute oral toxicity
Inhalation		
Triethyl Phosphate	:	LC50/4 h/Rat(dust/mist): > 8.817 mg/l
		The substance or mixture has no acute inhalation toxicity
Polyvinylidene fluoride/hexafluoropropene	:	The substance is a polymer and is not expected to produce toxic effects. Toxic effects cannot be excluded
Graphite	:	LC50/4 h/Rat(dust/mist) Method: OECD Test Guideline 403 An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.
Dermal		
Triethyl Phosphate	:	LD50/Rabbit: > 20,000 mg/kg The substance or mixture has no acute dermal toxicity
Polyvinylidene fluoride/hexafluoropropene	:	Toxic effects cannot be excluded
Graphite	:	LD50/Rat: > 2,000 mg/kg Method: OECD Test Guideline 402 The substance or mixture has no acute dermal toxicity Information given is based on data obtained from similar substances.
Skin corrosion/irritation		
Triethyl Phosphate	:	Species: Rabbit Result: No skin irritation Classification: Not classified as irritant Method: OECD Test Guideline 404
Polyvinylidene fluoride/hexafluoropropene	:	Species: Rabbit Result: No skin irritation Classification: Not classified as irritant Method: OECD Test Guideline 404
Graphite	:	Species: Rabbit Result: No skin irritation Classification: No skin irritation Method: OECD Test Guideline 404
Serious eye damage/eye irritation		
Triethyl Phosphate	:	Species: Rabbit Result: Eye irritation Classification: Irritating to eyes. Method: OECD Test Guideline 405
Graphite	:	Species: Rabbit Result: No eye irritation Classification: No eye irritation Method: OECD Test Guideline 405
Respiratory or skin sensitisation		
Triethyl Phosphate	:	Species: Mouse Result: Does not cause skin sensitisation. Classification: Does not cause skin sensitisation. Method: OECD Test Guideline 429
Polyvinylidene fluoride/hexafluoropropene	:	Species: Guinea pig Result: Does not cause skin sensitisation. Classification: Does not cause skin sensitisation.
Graphite	:	Species: Mouse

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Result: Does not cause skin sensitisation.
Classification: Does not cause skin sensitisation.
Method: OECD Test Guideline 429

Germ cell mutagenicity

- Triethyl Phosphate : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
- Polyvinylidene fluoride/hexafluoropropene : Animal testing did not show any mutagenic effects. The substance is a polymer and is not expected to produce toxic effects.
- Graphite : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Evidence suggests this substance does not cause genetic damage in animals.

Carcinogenicity

- Polyvinylidene fluoride/hexafluoropropene : Not classifiable as a human carcinogen.
The substance is a polymer and is not expected to produce toxic effects.

Reproductive toxicity

- Triethyl Phosphate : Reproductive toxicity: No toxicity to reproduction
Animal testing showed no reproductive toxicity.
Teratogenicity: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
- Polyvinylidene fluoride/hexafluoropropene : Reproductive toxicity: No toxicity to reproduction
No effects on or via lactation
The substance is a polymer and is not expected to produce toxic effects.
Teratogenicity: The substance is a polymer and is not expected to produce toxic effects.
- Graphite : Reproductive toxicity: No toxicity to reproduction
Animal testing showed no reproductive toxicity.
Teratogenicity: Animal testing showed no developmental toxicity.

Specific Target Organ Toxicity

Specific target organ toxicity - single exposure

- Triethyl Phosphate : Target Organs: Central nervous system
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
- Polyvinylidene fluoride/hexafluoropropene : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- Graphite : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

- Triethyl Phosphate : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Polyvinylidene fluoride/hexafluoropropene : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- Graphite : Likely route of exposure: Ingestion
The substance or mixture is not classified as specific target organ

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toxicant, repeated exposure.

Aspiration hazard

- Polyvinylidene fluoride/hexafluoropropene : No aspiration toxicity classification
Graphite : No aspiration toxicity classification

Other

- Triethyl Phosphate : Repeated dose toxicity:
Oral/Rat
NOAEL: 1,000 mg/kg
No toxicologically significant effects were found.
- Polyvinylidene fluoride/hexafluoropropene : Repeated dose toxicity:
Oral/Rat
No toxicologically significant effects were found.
Inhalation/Rat
No toxicologically significant effects were found.
- Graphite : Repeated dose toxicity:
Ingestion/Rat 54 d
NOAEL: > 12,000 mg/kg
Method: see user defined free text
No toxicologically significant effects were found.

Section 12 - Ecological Information**Ecotoxicity effects**

Acute and prolonged toxicity to fish

- Triethyl Phosphate : LC50/96 h/Leuciscus idus (Golden orfe): > 100 mg/l
Graphite : LC50/96 h/Danio rerio (zebra fish): > 100 mg/l
Method: OECD Test Guideline 203

Toxicity to aquatic plants

- Triethyl Phosphate : ErC50/72 h/Desmodesmus subspicatus (green algae): 901 mg/l
Graphite : ErC50/72 h/Pseudokirchneriella subcapitata (green algae): > 100 mg/l
Method: OECD Test Guideline 201
NOEC/72 h/Pseudokirchneriella subcapitata (green algae): 100 mg/l
Method: OECD Test Guideline 201

Acute toxicity to aquatic invertebrates

- Triethyl Phosphate : EC50/48 h/Daphnia magna (Water flea): > 100 mg/l
Method: OECD Test Guideline 202
Polyvinylidene fluoride/hexafluoropropene : EC50/48 h/Daphnia magna (Water flea): > 100 mg/l
Graphite : EC50/48 h/Daphnia magna (Water flea): > 100 mg/l
Method: OECD Test Guideline 202

Chronic toxicity to aquatic Invertebrates

- Triethyl Phosphate : NOEC/21 d/Daphnia magna (Water flea): 31.6 mg/l
Method: OECD Test Guideline 211
Graphite : NOEC/21 d/Daphnia magna (Water flea): 47 mg/l

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Method: OECD Test Guideline 211

Persistence and degradability

Triethyl Phosphate : Result: Biodegradable
Graphite : Result: Not biodegradable

Bioaccumulation

No information available.

Mobility in soil

No information available.

Other adverse effects

No information available.

Section 13 - Waste Disposal

Waste disposal methods : If recycling is not practicable, dispose of in compliance with local regulations. Never place unused product down any indoor or out door drain. Do not reuse empty container. Contaminated/not cleaned containers should be treated/handled like product waste. Dispose of container properly. Refer to applicable Local, State/Provincial, and Federal Regulations, as well as industry Standards.

Contaminated packaging : Dispose of in accordance with local regulations.

Section 14 - Transport Information

Not classified as dangerous in the meaning of transport regulations.

China Dangerous Goods Regulation

UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Packing group : Not applicable

IMDG

UN number : Not applicable
UN proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable
Marine pollutant : Not applicable

IATA

UN number : Not applicable
UN proper shipping name : Not applicable
Transport hazard class : Not applicable
Packing group : Not applicable

Matters needing attention for transportation : Not applicable

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Regulation on the Safety Management of Hazardous Chemicals
Production Safety Law of the People's Republic of China
Law of the People's Republic of China on Prevention and Treatment of Occupational Disease
Environmental Protection Law of the People's Republic of China
Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution
Marine Environment Protection Law of the People's Republic of China
Fire Protection Law of the People's Republic of China
Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes
Occupational exposure limits for hazardous agents in the workplace Part 1 Chemical hazardous agents (GBZ2.1)
Occupational exposure limits for hazardous agents in the workplace Part 2 Physical agents (GBZ2.2)

Section 16 - Other Information**References**

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Significant change from previous version is denoted with a double bar.

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