

Section 1 - Identification

Product Name Phosphorus, Oil based standard solution, Specpure®, P 5000µg/g

| | |
|--------------------------------|--|
| Product Code | 42447 |
| Address | ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia |
| Emergency Tel. | CHEMTREC® 03 9757 4559 or +613 9757 4559 |
| Telephone / Fax Numbers | Tel: 1300 735 292 Fax: 1800 067 639 |
| E-mail address | ANZinfo@thermofisher.com |

Recommended Use Laboratory chemicals.

Uses advised against This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. Verify requirements related to using, handling and storing these substances. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product contains one or more substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as not hazardous according to criteria of Safe Work Australia.

Physical hazards
No hazards identified

Health hazards
No hazards identified

Environmental hazards
No hazards identified

Label Elements None required

Other information

Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|-------------------|-----------|----------|
| White mineral oil | 8042-47-5 | 99.5 |
| Phosphorus | 7723-14-0 | 0.50 |

Section 4 - First Aid Measures

| | |
|--|---|
| Inhalation | Remove to fresh air. Get medical attention immediately if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Self-Protection of the First Aider | No special precautions required. |
| First Aid Facilities | Eyewash, safety shower and washroom. |
| Most important symptoms and effects | None reasonably foreseeable. |
| Notes to Physician | Treat symptomatically. |

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Clean-up methods - small spillage

Sweep up and shovel into suitable containers for disposal.

Clean-up methods - large spillage

Not applicable, packaged goods.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia **DE** - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

| Component | Australia | New Zealand WEL | ACGIH TLV | The United Kingdom | Germany |
|-------------------|----------------------------|----------------------------|-----------|--------------------|---|
| White mineral oil | | | | | TWA: 5 mg/m ³ (8 Stunden). AGW - exposure factor 4 TWA: 5 mg/m ³ (8 Stunden). MAK Höhepunkt: 20 mg/m ³ |
| Phosphorus | TWA: 0.1 mg/m ³ | TWA: 0.1 mg/m ³ | | | TWA: 0.01 mg/m ³ (8 Stunden). MAK Höhepunkt: 0.02 mg/m ³ |

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Exposure Controls

Engineering Measures

None under normal use conditions.

Personal protective equipment

Eye Protection

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|----------------|-----------------------------------|-----------------|-----------------|-----------------------|
| Nitrile rubber | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger

of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type: Particle filter (or AUS/NZ equivalent)

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

| | | |
|--|--------------------------|--|
| Appearance | Amber | |
| Physical State | Liquid | |
| Odor | Petroleum distillates | |
| Odor Threshold | No data available | |
| pH | No information available | |
| Melting Point/Range | No data available | |
| Softening Point | No data available | |
| Boiling Point/Range | > 315 °C / 599 °F | |
| Flash Point | > 232 °C / > 449.6 °F | Method - No information available |
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | No data available | |
| Vapor Pressure | No data available | |
| Vapor Density | No data available | (Air = 1.0) |
| Specific Gravity / Density | 0.75 g/cm3 | @ 20 °C |
| Bulk Density | Not applicable | Liquid |
| Water Solubility | Immiscible | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| White mineral oil | 6 | |
| Autoignition Temperature | 338 °C / 640.4 °F | |
| Decomposition Temperature | No data available | |
| Viscosity | No data available | |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

Other information

Section 10 - Stability and Reactivity

Reactivity None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Heat, flames and sparks.

Incompatible Materials None known.

Hazardous Decomposition Products None under normal use conditions.

Hazardous Polymerization No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Toxicology data for the components

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------|---------------------------|----------------------|-----------------------------|
| White mineral oil | >5000 mg/kg (Rat) | >3000 mg/kg (Rabbit) | |
| Phosphorus | >15000 mg/kg (Rat Female) | | LC50 = 4.3 mg/L (Rat) 1 h |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs

No information available.

(j) aspiration hazard; No data available

Symptoms / effects, both acute and delayed No information available

Section 12 - Ecological Information

Ecotoxicity effects Contains a substance which is: Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-------------------|---|---------------------|------------------|----------|
| White mineral oil | LC50: > 10000 mg/L, 96h (Lepomis macrochirus) | | | |
| Phosphorus | LC50: 33.2 mg/L/96h (Danio rerio) | EC50: 10.5 mg/L/48h | | |

Persistence and Degradability

Persistence

May persist.

**Degradation in sewage
treatment plant**

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

Product has a high potential to bioconcentrate

| Component | log Pow | Bioconcentration factor (BCF) |
|-------------------|---------|-------------------------------|
| White mineral oil | 6 | No data available |
| Phosphorus | | <200 dimensionless |

Mobility

Spillage unlikely to penetrate soil. The product is insoluble and floats on water. Is not likely mobile in the environment due its low water solubility Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

**Waste from Residues/Unused
Products**

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

Other Information

Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer.

Section 14 - Transport Information

IMDG/IMO

Not regulated

ADG

Not regulated

| Component | Hazchem Code |
|----------------------------------|--------------|
| Phosphorus 7723-14-0 (0.50) | 1WE 1Z |

IATA

Not regulated

Environmental hazards

No hazards identified

Special Precautions

No special precautions required

Additional information

None known

Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons

No poison schedule number allocated.

Australian Industrial Chemicals Introduction Scheme (AICIS)

| Component | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|-------------------------------|---|------------------------|
| White mineral oil - 8042-47-5 | Present | - |
| Phosphorus - 7723-14-0 | Present | - |

Australian - Illicit Drug Precursors/Reagents Substance List

This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. Verify requirements related to using, handling and storing these substances.

Chemicals of Security Concern

This product contains one or more substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

| Component | Australian - Illicit Drug Precursors/Reagents Substance List | Chemicals of Security Concern |
|------------------------|--|-------------------------------|
| Phosphorus - 7723-14-0 | Category 1 | Listed in Appendix A |

Legend

Category 1 - Chemicals that require an End User Declaration with each purchase and may only be sold to 'account customers' or customers that are prepared to open an account. Supply of these chemicals to End Users or Distributors must be delayed for a period of not less than 24 hours

Chemicals of Security Concern - for further information see <http://www.chemicalsecurity.gov.au/securityconcerns>

National pollutant inventory Subject to reporting requirements

| Component | National pollutant inventory |
|------------------------|--|
| Phosphorus - 7723-14-0 | 3 tonne/yr. Threshold category 3 total |

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

| Component | AICS | NZIoC | EINECS | ELINCS | TSCA | DSL | NDSL | PICCS | ENCS | ISHL | IECSC | KECL |
|-------------------|------|-------|-----------|--------|------|-----|------|-------|------|------|-------|----------|
| White mineral oil | X | X | 232-455-8 | - | X | X | - | X | X | X | X | KE-35412 |
| Phosphorus | X | X | 231-768-7 | - | X | X | - | X | X | | X | KE-28713 |

Legend: X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

International Regulations

| | |
|-------------------------------------|--|
| Ozone Depletion Potential | This product does not contain any known or suspected substance |
| Persistent Organic Pollutant | This product does not contain any known or suspected substance |
| Rotterdam Convention (PIC) | Not applicable |

Basel convention on the control of transboundary movements of hazardous wastes and their disposal
Not applicable.

| Component | CAS No | OECD HPV | Restriction of Hazardous Substances (RoHS) | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|-------------------|-----------|----------|--|---|--|
| White mineral oil | 8042-47-5 | Listed | Not applicable | Not applicable | Not applicable |
| Phosphorus | 7723-14-0 | Listed | Not applicable | Not applicable | Not applicable |

Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|------------|---|---|---|
| Phosphorus | - | Use restricted. See item 75. (see link for restriction details) | - |

<https://echa.europa.eu/substances-restricted-under-reach>

Section 16 - Other Information

Legend

| | |
|--|--|
| AICS - Australian Inventory of Chemical Substances | NZIoC - New Zealand Inventory of Chemicals |
| TSCA - United States Toxic Substances Control Act Section 8(b) Inventory | EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances |
| DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List | ENCS - Japanese Existing and New Chemical Substances |
| IECSC - Chinese Inventory of Existing Chemical Substances | KECL - Korean Existing and Evaluated Chemical Substances |
| PICCS - Philippines Inventory of Chemicals and Chemical Substances | CAS - Chemical Abstracts Service |
| TWA - Time Weighted Average | ACGIH - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC) |
| IARC - International Agency for Research on Cancer | IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code |
| ICAO/IATA - International Civil Aviation Organization/International Air Transport Association | ADG Australian Code for the Transport of Dangerous Goods by Road and Rail |
| MARPOL - International Convention for the Prevention of Pollution from Ships | OECD - Organisation for Economic Co-operation and Development |
| NZS 5433:2012 - Transport of Dangerous Goods on Land | LC50 - Lethal Concentration 50% |
| LD50 - Lethal Dose 50% | ATE - Acute Toxicity Estimate |
| EC50 - Effective Concentration 50% | RPE - Respiratory Protective Equipment |
| WEL - Workplace Exposure Limit | NOEC - No Observed Effect Concentration |
| DNEL - Derived No Effect Level | BCF - Bioconcentration factor |
| POW - Partition coefficient Octanol:Water | PBT - Persistent, Bioaccumulative, Toxic |
| vPvB - very Persistent, very Bioaccumulative | |
| VOC - (Volatile Organic Compound) | |

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data

Health Hazards Calculation method

Environmental hazards Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Revision Date 19-Nov-2022

Revision Summary Not applicable.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet