



# SAFETY DATA SHEET

**MATERION**

Version #: 03

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

Registration number	-
Synonyms	None.
Materion Code	1YW
1.1. Product identifier	
Name of the substance	Phosphorus
Identification number	015-002-00-7 (Index number)
1.2. Relevant identified uses of the substance or mixture and uses advised against	
Identified uses	Not available.
Uses advised against	None known.
1.3. Details of the supplier of the safety data sheet	
Supplier	
Company name	Materion Electronic Materials
Address	6070 Parkland Blvd Mayfield Heights, OH 44124 United States
Division	
Telephone	1.216.383.4019
e-mail	Materion-PS@materion.com
Contact person	Product Stewardship Director
1.4. Emergency telephone number	
Document number	1YW

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Physical hazards

Flammable solids	Category 1	H228 - Flammable solid.
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##### Health hazards

Acute toxicity, oral	Category 2	H300 - Fatal if swallowed.
Skin corrosion/irritation	Category 1A	H314 - Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.

##### Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

Contains: red phosphorus

#### Hazard pictograms



<b>Signal word</b>	Danger
<b>Hazard statements</b>	
H228	Flammable solid.
H300	Fatal if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

### Precautionary statements

<b>Prevention</b>	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P260	Do not breathe dust or mists.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

<b>Response</b>	
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P330	Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTRE/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370 + P378	In case of fire: Use appropriate media to extinguish.
P391	Collect spillage.

<b>Storage</b>	
P405	Store locked up.

<b>Disposal</b>	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental label information** 100% of the substance consists of component(s) of unknown acute dermal toxicity. For further information, please contact the Product Stewardship Department at +1.800.862.4118.

**2.3. Other hazards** This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. The substance is not included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

General information					
Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
red phosphorus	100	7723-14-0 231-768-7	-	015-002-00-7	
<b>Classification:</b> Flam. Sol. 1;H228, Acute Tox. 2;H300;(ATE: 5 mg/kg bw), Skin Corr. 1A;H314, Eye Dam. 1;H318, Aquatic Acute 1;H400, Aquatic Chronic 3;H412					

### List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.  
 CLP: Regulation No. 1272/2008.  
 ATE: Acute toxicity estimate.  
 M: M-factor  
 vPvB: very persistent and very bioaccumulative substance.  
 PBT: persistent, bioaccumulative and toxic substance.  
 #: This substance has been assigned Community workplace exposure limit(s).  
 #: This substance has been assigned Union workplace exposure limit(s).  
 All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments**

The full text for all H-statements is displayed in section 16. The full text for all R- and H-phrases is displayed in section 16.

**SECTION 4: First aid measures****General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

**4.1. Description of first aid measures****Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**

Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control centre immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

**Eye contact**

Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately.

**Ingestion**

Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**4.2. Most important symptoms and effects, both acute and delayed**

Nausea. Abdominal pain. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**4.3. Indication of any immediate medical attention and special treatment needed**

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**SECTION 5: Firefighting measures****General fire hazards**

Flammable solid.

**5.1. Extinguishing media****Suitable extinguishing media**

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media**

Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture**

During fire, gases hazardous to health may be formed.

**5.3. Advice for firefighters****Special protective equipment for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special firefighting procedures**

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**For emergency responders**

Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions**

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. The product is insoluble in water. For personal protection, see section 8 of the SDS. For waste disposal, see section 13.

### 6.4. Reference to other sections

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### 7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances  
Hazard categories in accordance with Regulation (EC) No 1272/2008  
- H2 ACUTE TOXIC (Lower-tier requirements = 50 tonnes; Upper-tier requirements = 200 tonnes)  
- E1 Hazardous to the Aquatic Environment Acute (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)

### 7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended

Material	Type	Value	Form
red phosphorus (CAS 7723-14-0)	Ceiling	0,2 mg/m <sup>3</sup>	Inhalable fraction.
	MAK	0,1 mg/m <sup>3</sup>	Inhalable fraction.

##### Belgium. OEL. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1 - Chemical agents, as amended

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m <sup>3</sup>
		0,02 ppm

##### Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

Material	Type	Value
red phosphorus (CAS 7723-14-0)	MAC	0,1 mg/m <sup>3</sup>
	STEL	0,3 ppm

##### Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m <sup>3</sup>

**Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	Ceiling	0,3 mg/m3
	TWA	0,1 mg/m3

**Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TLV	0,1 mg/m3

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m3

**Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,1 mg/m3

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	VLE	0,3 mg/m3
	VME	0,1 mg/m3
Regulatory status: Indicative limit (VL)		
Regulatory status: Indicative limit (VL)		

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG), as updated**

Material	Type	Value	Form
red phosphorus (CAS 7723-14-0)	TWA	0,01 mg/m3	Inhalable fraction.

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

Material	Type	Value	Form
red phosphorus (CAS 7723-14-0)	AGW	0,01 mg/m3	Inhalable fraction.

**Greece. OELs, Presidential Decree No. 307/1986, as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,3 mg/m3
	TWA	0,1 mg/m3

**Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,1 mg/m3
	TWA	0,1 mg/m3

**Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m3

**Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,3 mg/m3

**Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations**

Material	Type	Value
	TWA	0,1 mg/m3

**Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m3

**Latvia. OELs. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/ 2007, L.V. 80, Annex 1), as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,03 mg/m3

**Lithuania. OELs. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No. V-824/A1-389), as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,03 mg/m3

**Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TLV	0,1 mg/m3

**Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,24 mg/m3
	TWA	0,03 mg/m3

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m3

**Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,15 mg/m3
	TWA	0,05 mg/m3

**Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,1 mg/m3
	TWA	0,05 mg/m3

**Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Ann. I 100/2001), as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	KTV	0,02 mg/m3

**Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,01 mg/m3

**Spain. OELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 1-Valores Límites Ambientales (VLAs)**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	TWA	0,1 mg/m3
		0,02 ppm

**Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte**

Material	Type	Value	Form
red phosphorus (CAS 7723-14-0)	STEL	0,02 mg/m3	Inhalable fraction.
	TWA	0,02 mg/m3	Inhalable fraction.

**UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1**

Material	Type	Value
red phosphorus (CAS 7723-14-0)	STEL	0,3 mg/m3
	TWA	0,1 mg/m3

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**Exposure guidelines**

**Cyprus OEL: Skin designation**

red phosphorus (CAS 7723-14-0) Can be absorbed through the skin.

**8.2. Exposure controls**

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear safety glasses with side shields (or goggles) and a face shield.

**Skin protection**

**- Hand protection** Wear appropriate chemical resistant gloves.

**- Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls** Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

**Physical state** Solid.  
**Form** Solid.  
**Colour** Not available.  
**Odour** Not available.

**Melting point/freezing point** 44,1 °C (111,38 °F)

**Boiling point or initial boiling point and boiling range** 280 °C (536 °F)

**Flammability** Flammable solid.

**Upper/lower flammability or explosive limits**

**Explosive limit - lower (%)** Not available.

**Explosive limit – upper (%)** Not available.

**Flash point** Not available.

**Auto-ignition temperature** 260 °C (500 °F)  
30 °C (86 °F)

**Decomposition temperature** Not available.

**pH** Not available.

**Kinematic viscosity** 0,9236 mm<sup>2</sup>/s estimated

**Solubility**

**Solubility (water)** 0,003 g/l

**Partition coefficient (n-octanol/water) (log value)** Not available.

**Vapour pressure** 3906,33 kPa (25 °C (77 °F))

**Density and/or relative density**

**Density** 1,83 g/cm<sup>3</sup> estimated

**Vapour density** 4,42

**Particle characteristics** Not available.

## 9.2. Other information

**9.2.1. Information with regard to physical hazard classes** No relevant additional information available.

**9.2.2. Other safety characteristics**

**Dynamic viscosity** 1,69 mPa.s

**Molecular formula** P

**Molecular weight** 123,9 g/mol

**Specific gravity** 1,83

## SECTION 10: Stability and reactivity

**10.1. Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability** Material is stable under normal conditions.

**10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid** Heat, flames and sparks. Contact with incompatible materials.

**10.5. Incompatible materials** Strong oxidising agents.

**10.6. Hazardous decomposition products** No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

**Information on likely routes of exposure**

**Inhalation** May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

**Skin contact** Causes severe skin burns.

**Eye contact** Causes serious eye damage.

**Ingestion** Fatal if swallowed. Causes digestive tract burns.

**Symptoms** Nausea. Abdominal pain. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008



<b>Acute toxicity</b>	Fatal if swallowed.
<b>Skin corrosion/irritation</b>	Causes severe skin burns and eye damage.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory sensitisation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Skin sensitisation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Germ cell mutagenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Carcinogenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Reproductive toxicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - repeated exposure</b>	Due to partial or complete lack of data the classification is not possible.
<b>Aspiration hazard</b>	Due to partial or complete lack of data the classification is not possible.
<b>Mixture versus substance information</b>	No information available.
<b>11.2. Information on other hazards</b>	
<b>Endocrine disrupting properties</b>	This substance does not have endocrine disrupting properties with respect to human health, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Product	Species		Test Results
red phosphorus (CAS 7723-14-0)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	0,025 - 0,037 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	0,0017 - 0,0035 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**12.2. Persistence and degradability** No data is available on the degradability of this product.

**12.3. Bioaccumulative potential** No data available.

**Partition coefficient n-octanol/water (log Kow)** Not available.

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

**12.6. Endocrine disrupting properties** This substance does not have endocrine disrupting properties with respect to the environment, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605.

**12.7. Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 12.8. Additional information

#### Estonia Dangerous substances in soil Data

red phosphorus (CAS 7723-14-0)	Chemical pesticides (As the total sum of the active substances) 0,5 mg/kg
	Chemical pesticides (As the total sum of the active substances) 20 mg/kg
	Chemical pesticides (As the total sum of the active substances) 5 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN1338
<b>14.2. UN proper shipping name</b>	PHOSPHORUS, AMORPHOUS
<b>14.3. Transport hazard class(es)</b>	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
Hazard No. (ADR)	40
Tunnel restriction code	E
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	Yes
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### RID

<b>14.1. UN number</b>	UN1338
<b>14.2. UN proper shipping name</b>	PHOSPHORUS, AMORPHOUS
<b>14.3. Transport hazard class(es)</b>	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	Yes
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### ADN

<b>14.1. UN number</b>	UN1338
<b>14.2. UN proper shipping name</b>	PHOSPHORUS, AMORPHOUS
<b>14.3. Transport hazard class(es)</b>	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	Yes
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IATA

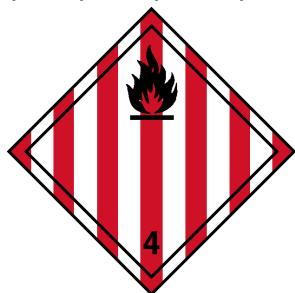
<b>14.1. UN number</b>	UN1338
<b>14.2. UN proper shipping name</b>	Phosphorus, amorphous
<b>14.3. Transport hazard class(es)</b>	
Class	4.1
Subsidiary risk	-
<b>14.4. Packing group</b>	III

<b>14.5. Environmental hazards</b>	Yes
<b>ERG Code</b>	3L
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.

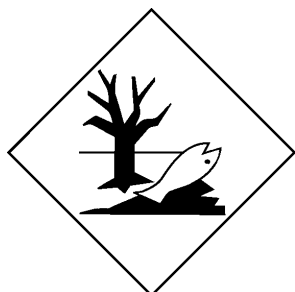
#### IMDG

<b>14.1. UN number</b>	UN1338
<b>14.2. UN proper shipping name</b>	PHOSPHORUS, AMORPHOUS, MARINE POLLUTANT
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	4.1
<b>Subsidiary risk</b>	-
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-A, S-G
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



**General information** IMDG Regulated Marine Pollutant.

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**  
Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

red phosphorus (CAS 7723-14-0)

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended - Conditions of restriction given for the associated entry number should be considered**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended**

Not listed.

**Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended**

Not listed.

#### **Other EU regulations**

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances

Hazard categories in accordance with Regulation (EC) No 1272/2008

- H2 ACUTE TOXIC

- E1 Hazardous to the Aquatic Environment Acute

#### **Other regulations**

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. The product is classified and labelled in accordance with EC directives or respective national laws. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

#### **National regulations**

Follow national regulation for work with chemical agents.

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended Use of this product by young persons under the age of 18 is not allowed in accordance with the Management of Health and Safety at Work Regulations 1999 [SI 1999/3242], as amended. Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

#### **France regulations**

**France INRS Table of Occupational Diseases**

red phosphorus (CAS 7723-14-0)

Affections professionnelles liées au contact avec le phosphore et le sesquisulfure de phosphore 5

#### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

### **SECTION 16: Other information**

#### **List of abbreviations**

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.

AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization.

IATA: International Air Transport Association.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

IMDG: International Maritime Dangerous Goods.

MAC: Maximum Allowed Concentration.

MARPOL: International Convention for the Prevention of Pollution from Ships.

PBT: Persistent, bioaccumulative and toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit.

TLV: Threshold Limit Value.

## References

### Information on evaluation method leading to the classification of mixture

### Full text of any statements, which are not written out in full under sections 2 to 15

TWA: Time Weighted Average.  
VLE: Exposure Limit Value.  
VME: Exposure Average Value.  
vPvB: Very persistent and very bioaccumulative.  
Not available.  
Not applicable.

## Revision information

## Training information

## Further information

H228 Flammable solid.  
H300 Fatal if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H400 Very toxic to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.  
This document has undergone significant changes and should be reviewed in its entirety.  
Follow training instructions when handling this material.  
Transportation Emergency  
Call Chemtrec at:  
US: 800.424.9300  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059  
South Korea Toll-free Number – 080-880-0468

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