

## Phosphoric acid : Triethylamine

03388-100ML

Version 4.0

Revision Date 11.06.2022

Supersedes 3

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

#### 1.1. Product identifier

Product name : Phosphoric acid : Triethylamine  
SDS-number : 000000021853  
Type of product : Mixture  
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.

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

Use of the Substance/Mixture : Laboratory chemicals  
Uses advised against : none

#### 1.3. Details of the supplier of the safety data sheet

Company : Honeywell Specialty Chemicals Seelze GmbH  
Wunstorfer Straße 40  
30926 Seelze  
Germany  
Honeywell International, Inc.  
115 Tabor Road  
Morris Plains, NJ 07950-2546  
USA  
Telephone : (49) 5137-999 0  
For further information, please contact: : PMTEU Product Stewardship:  
SafetyDataSheet@Honeywell.com

#### 1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)  
+1-303-389-1414 (Medical)  
Country based Poison Control Center : see chapter 15.1

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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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### REGULATION (EC) No 1272/2008

#### Acute toxicity Category 4 - Inhalation

H332 Harmful if inhaled.

Skin corrosion Category 1A

H314 Causes severe skin burns and eye damage.

Specific target organ toxicity - single exposure Category 3 - Respiratory system

H335 May cause respiratory irritation.

#### Serious eye damage/eye irritation Category 1

H318 Causes serious eye damage.

### 2.2. Label elements

#### REGULATION (EC) No 1272/2008

Hazard pictograms



Signal word

: **Danger**

Hazard statements

: H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.

Precautionary statements

: P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P284 Wear respiratory protection.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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Hazardous components : triethylamine  
which must be listed on the  
label

**2.3. Other hazards**

None known. Results of PBT and vPvB assessment, see chapter 12.5.

**SECTION 3: Composition/information on ingredients**

**3.1. Substance**

Not applicable

**3.2. Mixture**

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
triethylamine	121-44-8 612-004-00-5 204-469-4	Flam. Liq. 2; H225 Acute Tox. 4; H302; Oral Acute Tox. 3; H331; Inhalation Acute Tox. 3; H311; Dermal Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335; Respiratory system	>= 10 % - <= 25 %	STOT SE 3; H335:>= 1 %
Orthophosphoric acid	7664-38-2 015-011-00-6 231-633-2	Skin Corr. 1B; H314 Met. Corr. 1; H290	>= 10 % - < 25 %	Eye Irrit. 2; H319:10 - < 25 % Skin Irrit. 2; H315:10 - < 25 % Skin Corr. 1B; H314:>= 25 %

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

*Inhalation:*

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

*Skin contact:*

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

*Eye contact:*

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Protect unharmed eye. Call a physician immediately.

*Ingestion:*

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Drink 1 or 2 glasses of water. Call a physician immediately.

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

No data available

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

No data available

See Section 11 for more detailed information on health effects and symptoms.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Foam  
Dry powder  
Carbon dioxide (CO<sub>2</sub>)

*Extinguishing media which shall not be used for safety reasons:*

Do not use a solid water stream as it may scatter and spread fire.

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

In case of fire hazardous decomposition products may be produced such as:

Oxides of phosphorus  
nitrogen oxides  
Carbon oxides

#### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Unprotected persons must be kept away. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist.

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

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

Soak up with inert absorbent material.

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Sweep up and shovel into suitable containers for disposal.  
Dispose of in accordance with local regulations.

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing.

*Advice on protection against fire and explosion:*

Normal measures for preventive fire protection.

*Hygiene measures:*

Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday.

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

*Requirements for storage areas and containers:*

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature. (Ambient temperature:  $> 0 < 35^{\circ}\text{C}$ )

### 7.3. Specific end use(s)

no additional data available

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**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits:**

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Orthophosphoric acid	EH40 WEL TWA	1 mg/m <sup>3</sup>		
Orthophosphoric acid	EH40 WEL			Listed
Orthophosphoric acid	EU ELV TWA	1 mg/m <sup>3</sup>		Indicative
Orthophosphoric acid	EU ELV STEL	2 mg/m <sup>3</sup>		Indicative
Orthophosphoric acid	EH40 WEL STEL	2 mg/m <sup>3</sup>	15 minutes	
Orthophosphoric acid	ME OELD STEL	2 mg/m <sup>3</sup>	15 minutes	
Orthophosphoric acid	ME OELD MAC	1 mg/m <sup>3</sup>		
Orthophosphoric acid	XK OEL STEL	2 mg/m <sup>3</sup>		
Orthophosphoric acid	XK OEL 8H TWA	1 mg/m <sup>3</sup>		

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triethylamine	EH40 WEL TWA	8 mg/m3 2 ppm		
triethylamine	EH40 WEL SKIN_DES			Can be absorbed through the skin.
triethylamine	EH40 WEL STEL	17 mg/m3 4 ppm		
triethylamine	EH40 WEL			Listed
triethylamine	EU ELV SKIN_DES			Can be absorbed through the skin.
triethylamine	EU ELV STEL	12,6 mg/m3 3 ppm		Indicative
triethylamine	EU ELV TWA	8,4 mg/m3 2 ppm		Indicative

TWA - Time weighted average

STEL - Short term exposure limit

MAC - Maximum allowable concentration value:

8H TWA - 8-hour TWA:

SKIN\_DES - Skin designation:

**DNEL/ PNEC-Values**

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
triethylamine	Workers / Long-term systemic effects		8,4 mg/m3	Inhalation	
triethylamine	Workers / Acute systemic effects		12,6 mg/m3	Inhalation	
triethylamine	Workers / Long-term local effects		8,4 mg/m3	Inhalation	
triethylamine	Workers / Acute local effects		12,6 mg/m3	Inhalation	
triethylamine	Workers / Long-term systemic effects		12,1mg/kg bw/d	Skin contact	



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Orthophosphoric acid	Workers / Long-term systemic effects		70 mg/m3	Inhalation	
Orthophosphoric acid	Workers / Long-term local effects		1 mg/m3	Inhalation	
Orthophosphoric acid	Consumers / Long-term systemic effects		4,57 mg/m3	Inhalation	
Orthophosphoric acid	Consumers / Long-term local effects		0,36 mg/m3	Inhalation	
Orthophosphoric acid	Consumers / Long-term systemic effects		0,1mg/kg bw/d	Skin contact	

Component	Environmental compartment / Value	Remarks
triethylamine	Fresh water: 0,11 mg/l	Assessment factor: 10
triethylamine	Marine water: 0,011 mg/l	Assessment factor: 100
triethylamine	Sewage treatment plant: 100 mg/l	Assessment factor: 10
triethylamine	Fresh water sediment: 1,575 mg/kg dw	
triethylamine	Marine sediment: 0,158 mg/kg dw	
triethylamine	Soil: 0,25 mg/kg dw	
Orthophosphoric acid	:	No hazard identified

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### 8.2. Exposure controls

#### Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

#### Personal protective equipment

##### *Respiratory protection:*

In case of insufficient ventilation, wear suitable respiratory equipment.

##### *Hand protection:*

Glove material: Fluorinated rubber

Break through time: 480 min

Glove thickness: 0,7 mm

Vitoject® 890

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

##### *Eye protection:*

Safety goggles

##### *Skin and body protection:*

Protective suit

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### Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

## SECTION 9: Physical and chemical properties

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

Physical state	: liquid
Colour	: No data available
Odour	: characteristic
Melting point/range	: No data available
Boiling point/boiling range	: 89 °C
Flammability	: Not applicable
Upper explosion limit	: 8,0 %(V)
Lower explosion limit	: 1,2 %(V)
Flash point	: Not applicable
Auto-ignition temperature	: 230 °C
Decomposition temperature	: No decomposition if used as directed.
pH	: 2,76 at 20 °C
Viscosity, kinematic	: No data available
Water solubility	: completely miscible
Vapour pressure	: 72 hPa
Density	: ca. 1,1 g/cm <sup>3</sup>

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### 9.2 Other Information

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Evaporation rate : No data available

Viscosity, dynamic : No data available

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under recommended storage conditions.

### 10.2. Chemical stability

No decomposition if used as directed.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:

Oxides of phosphorus

Carbon oxides

nitrogen oxides

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

*Acute oral toxicity:*

Acute toxicity estimate

Value: > 2.000 mg/kg

Method: Calculation method

*Acute dermal toxicity:*

Acute toxicity estimate

Value: > 2.000 mg/kg

Method: Calculation method

*Acute inhalation toxicity:*

Acute toxicity estimate

Value: 16,71 mg/l

Exposure time: 4 h

Method: Calculation method

*Skin irritation:*

Result: Causes severe burns.

*Eye irritation:*

Result: Risk of serious damage to eyes.

*Respiratory or skin sensitisation:*

No data available

*Repeated dose toxicity:*

Note: No data available

*Carcinogenicity:*

Species: not specified

Note: No data available

*Germ cell mutagenicity:*

Note: No data available

*Reproductive toxicity:*

Species: not specified

Remarks: No data available

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*STOT - single exposure:*

Assessment: May cause respiratory irritation.

*Aspiration hazard:*

No data available

### 11.2. Information on other hazards

Endocrine disrupting properties

No data available

*Other information:*

No data available

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## SECTION 12: Ecological information

### 12.1. Toxicity

*Toxicity to fish:*

No data available

*Toxicity to aquatic plants:*

No data available

*Toxicity to aquatic invertebrates:*

No data available

### 12.2. Persistence and degradability

*Biodegradability:*

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

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### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Product:*

Dispose according to legal requirements.

*Packaging:*

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:  
EC Directive 2006/12/EC; 2008/98/EEC  
Regulation No. 1013/2006

For personal protection see section 8.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID:1760

IMDG:1760

IATA:1760

### 14.2 UN proper shipping name

ADR/RID:CORROSIVE LIQUID, N.O.S.(PHOSPHORIC ACID, TRIETHYLAMINE)  
IMDG:CORROSIVE LIQUID, N.O.S.(PHOSPHORIC ACID, TRIETHYLAMINE)  
IATA:Corrosive liquid, n.o.s.(Phosphoric acid, Triethylamine)

### 14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

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**14.5 Environmental hazards**

ADR/RID: no

Marine pollutant: no

**14.6 Special precautions for user**

IMDG Code segregation group (SGG1) – ACIDS,

**14.7 Maritime transport in bulk according to IMO instruments**

No data available

**SECTION 15: Regulatory information**

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

Basis	Value	Remarks
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).
Directive 2012/18/EC		Not applicable

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250



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Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	
Latvia	+37167042473

Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

**Other inventory information**

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Industrial Chemicals Act (AIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)

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On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

### Text of H-statements referred to under heading 3

triethylamine	:	H225	Highly flammable liquid and vapour.
		H302	Harmful if swallowed.
		H331	Toxic if inhaled.
		H311	Toxic in contact with skin.
		H314	Causes severe skin burns and eye damage.
		H318	Causes serious eye damage.
		H335	May cause respiratory irritation.
Orthophosphoric acid	:	H314	Causes severe skin burns and eye damage.
		H290	May be corrosive to metals.

### Further information

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:  
EC European Community

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Honeywell**  
**Fluka™**

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CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

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. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.