







# PHOSPHORUS TRICHLORIDE FOR SYNTHESIS

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□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

## □□ 7: □□ □ □□□□

### 7.1. □□□□□□

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□□ □□ : □□ □□□ □□ □□ □(□) □□□□ □□□□□. □ □□□ □□□□ □□□ □□□□, □□□□ □□□□ □□□□. □□ □□ □□ □□□□ □□□□□□. Always wash hands after handling the product.

### 7.2. □□□□ □□□□ □□□□ □□□□ □□ □□

□□□ □□□ : Keep in a cool, well-ventilated place away from heat.

□□ □□ : Store in dry protected location to prevent any moisture contact. □□□□□□ □□ □□□□□□. □□□□ □□ □□ □□□□□□. □□□ □□□□ □□□□□□. □□□ □□□□□□□□. □□□ □□□□□□□□. □□□ □□□□ □□□□.

□□□□ : Store always product in container of same material as original container.

### 7.3. □□ □□ □□ □□

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## □□ 8: □□□□ □ □□□□□□

### 8.1. □□ □□ □□ □□

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### 8.2. □□□□□

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□□□ □□□ □□□ :  
Ensure good ventilation of the work station.

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□□ □□□ :  
Wear recommended personal protective equipment.

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□ □ □ □ □□□

□ □□ :  
Chemical goggles or face shield

#### Skin protection

□□ □□ :  
Wear a mask

□ □□ :  
Protective gloves

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□□□ □□□ :  
Wear appropriate mask

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## □□ 9: □□□□□ □□

### 9.1. □□□□ □□□□□ □□□ □□ □□

□□□ □□	: □□
□□	: Colourless.
□□	: Clear liquid.
□□□	: 137.33 g/mol
□□	: Pungent.
□□ □□	: □□□□
□□□	: □□□□
□□□	: -93.6 °C
□□ □□□□ □□□ □□	: 74 – 78 °C
□□□	: □□□
□□ □□□	: □□□□
□□ □□□	: □□□□
□□□	: □□□□
□□□□ □□	: □□□□
□□ □□	: □□□□
pH	: 1
□□(□□□)	: 0.278 mm <sup>2</sup> /s
□□(□□□□)	: 0.438 cP at 50 °C
□□□	: □: Decomposes exothermically in water □□□: Reacts with ethanol
Partition coefficient n-octanol/water (Log Kow)	: □□□□
□□□	: 120 mm Hg at 25 °C
50°C□□□□ □□□	: □□□□
□□	: 1.574 g/cm <sup>3</sup> at 21 °C
□□	: 1.572 – 1.574 (d <sub>20</sub> °C/4°C)
20°C□□□□ □□ □□ □□	: 4.75 (Air= 1)
□□ □□	: □□□□

### 9.2. □ □□ □□□□

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□□□	: 1.52 (20°C; 589 nm)

## □□ 10: □□□ □ □□□

### 10.1. □□□

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### 10.2. □□□ □□□

Stable under normal conditions.

### 10.3. □□ □□□ □□□

Highly reactive material. □□ □□ □ □□□□ □□. □□ □□ □, □□ □□□ □□□.

### 10.4. □□□ □ □□

□□□□. Overheating. Open flame. □. Sparks. Water, humidity.

### 10.5. □□□ □ □□

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### 10.6. □□□ □□□□ □□□□

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## □□ 11: □□□ □□ □□

### 11.1. □□ (EC) No 1272/2008 □□□□, □□□ □□□ □□ □□

- □□ (□□) : □□□ □□□□.
- □□ (□□) : □□□□ □□
- □□ (□□) : □□□□ □□□□.
- □□□ □□ □□ : Causes severe skin burns.  
pH: 1
- □ □□ □□ □□□ : Assumed to cause serious eye damage  
pH: 1
- □□ □□ □□□ : □□□□ □□
- □□□□ : □□□□ □□
- : □□□□ □□
- : □□□□ □□
- □□□□ □□ (1□ □□) : □□□□ □□
- □□□□ □□ (□□ □□) : □□□ □□ □□ □□□□ □□ □□□ □□□ □ □□.
- □□□ : □□□□ □□

### PHOSPHORUS TRICHLORIDE FOR SYNTHESIS (7719-12-2)

□□(□□□)	0.278 mm <sup>2</sup> /s
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## 11.2. □□ □□ □□

- □□ □□□□
- □□□ □□□ □□□ □□ □□ □□ □□ : □□□ □□□□

## □□ 12: □□□ □□□ □□

### 12.1. □□

- - □□ : Before neutralisation, the product may represent a danger to aquatic organisms.
- □□□□ □□□ : □□□□ □□
- □□□□ □□□ : □□□□ □□

### 12.2. □□□ □ □□□

### PHOSPHORUS TRICHLORIDE FOR SYNTHESIS (7719-12-2)

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### 12.3. □□ □□□

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### 12.4. □□ □□□

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### 12.5. PBT □ vPvB □□ □□

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### 12.6. □□□ □□ □□

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### 12.7. □□ □□ □□

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# PHOSPHORUS TRICHLORIDE FOR SYNTHESIS

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## □□ 13: □□□ □□□□

### 13.1. □□□ □□□

- □□(□□□) : Disposal must be done according to official regulations.
- □□□ : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- □□ □□ □□ : Disposal must be done according to official regulations.
- /□□ □□ □□□□ : □□, □□, □□ □/□□ □□ □□□□ □□ □□ □□□□ □□ □□ □□□□ □□ □□□□□□.
- □□ : Disposal must be done according to official regulations.
- Ecological waste information : Do not allow water (or moist air) contact with this material. Do not re-use empty containers.
- : Hazardous waste due to toxicity.

## □□ 14: □□□ □□□ □□

ADR / IMDG / IATA / ADN / RID □□ □□

### 14.1. UN □□ □□ ID □□

- UN-□□ (ADR) : UN 1809
- UN-□□ (IMDG) : UN 1809
- UN-□□ (IATA) : UN 1809
- UN-□□ (ADN) : UN 1809
- UN-□□ (RID) : UN 1809

### 14.2. UN □□ □□□

- □□□ (ADR) : □□□ □
- □□□ (IMDG) : PHOSPHORUS TRICHLORIDE
- □□□ (IATA) : Phosphorus trichloride
- □□□ (ADN) : □□□ □
- □□□ (RID) : □□□ □
- □□ □□ (ADR) (ADR) : UN 1809 □□□ □, 6.1 (8), I, (C/D)
- Transport document description (IMDG) : UN 1809 PHOSPHORUS TRICHLORIDE, 6.1 (8), I
- Transport document description (IATA) : UN 1809 Phosphorus trichloride, 6.1 (8), I
- Transport document description (ADN) : UN 1809 □□□ □, 6.1 (8), I
- Transport document description (RID) : UN 1809 □□□ □, 6.1 (8), I

### 14.3. □□□□□ □□□ □□

#### ADR

- □□□ □□ (ADR) : 6.1 (8)
- □□ (ADR) : 6.1, 8



#### IMDG

- □□□ □□ (IMDG) : 6.1 (8)
- □□ (IMDG) : 6.1, 8



#### IATA

- □□□ □□ (IATA) : 6.1 (8)

#### ADN

- □□□ □□ (ADN) : 6.1 (8)
- □□ (ADN) : 6.1, 8

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## RID

□□□□□ □□□ □□ (RID)  
 □□ □□ (RID)

: 6.1 (8)  
 : 6.1, 8



## 14.4. □□□□

□□ □□ (ADR) : I  
 □□ □□(IMDG) : I  
 □□ □□ (IATA) : I  
 □□ □□(ADN) : I  
 □□ □□(RID) : I

## 14.5. □□ □□□

□□□ □□ : □□□  
 □□□□□□ : □□□  
 EmS-No. (□□) : F-A  
 EmS-No. (□□) : S-B  
 □ □□ □□□□ : □□ □□ □□ □□

## 14.6. □□□□ □□ □□ □□□□

□□ □□ : TC3  
 □□ □□ (ADR) : 354  
 □□ □□(ADR) : 0  
 □□□(ADR) : E0  
 □□ □□(ADR) : P602  
 □□ □□ □□ □□ □□(ADR) : MP8, MP17  
 □□□ □□ □ □□ □□□□ □□ (ADR) : T20  
 □□□ □□ □ □□ □□□□ □□ □□ (ADR) : TP2  
 □□ □□(ADR) : L10CH  
 □□ □□ □□(ADR) : TU14, TU15, TE19, TE21  
 □□ □□□□ □□ : AT  
 □□ □□(ADR) : 1  
 □□ □□ □□ □□ -□□, □□ □□ □□(ADR) : CV1, CV13, CV28  
 □□ □□ □□ □□ - □□(ADR) : S9, S14  
 □□ □□ □□(Kemler □□) : 668  
 Orange plates (□□□□□□) :



□□ □□ □□ (ADR) : C/D  
 EAC □□ : 4WE  
 APP □□ : B

□□ □□ : 354  
 □□ □□ (IMDG) : 0  
 □□ □□(IMDG) : E0  
 □□ □□ (IMDG) : P602  
 □□ □□ (IMDG) : T20  
 □□ □□ □□ (IMDG) : TP2, TP13  
 □□ □□ (IMDG) : D

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□□ □□□ (IMDG) : SW2  
 □□ (IMDG) : SGG1, SG36, SG49  
 □□ □□□□ (IMDG) : Colourless liquid with a pungent odour. Reacts violently with water, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to most metals. Highly toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.

MFAG-□□ : 137

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PCA □□ □□ (IATA) : Forbidden  
 PCA □□ □□ □□ □□□ (IATA) : Forbidden  
 PCA □□ □□ (IATA) : Forbidden  
 PCA □□ □□□ (IATA) : Forbidden  
 CAO □□ □□ (IATA) : Forbidden  
 CAO □□ □□□ (IATA) : Forbidden  
 ERG □□ (IATA) : 6CW

□□ □□ □□

□□ □□ (ADN) : TC3  
 □□ □□ (ADN) : 354, 802  
 □□□ (ADN) : 0  
 □□□ (ADN) : E0  
 □□ □□ (ADN) : PP, EP, TOX, A  
 □□ (ADN) : VE02  
 □□ □□/□□□ □□ (ADN) : 2

□□ □□

□□ □□ (RID) : TC3  
 □□ □□ (RID) : 354  
 □□ □□ (RID) : 0  
 □□□ (RID) : E0  
 □□ □□ (RID) : P602  
 □□ □□ □□ □□ □□ (RID) : MP8, MP17  
 □□□ □□ □ □□ □□□□ □□ (RID) : T20  
 □□□ □□ □ □□ □□□□ □□ □□ (RID) : TP2  
 RID □□□ □□ □□ (RID) : L10CH  
 RID □□□ □□ □□ (RID) : TU14, TU15, TU38, TE21, TE22  
 □□ □□ (RID) : 1  
 □□ □□ □□ □□ -□□, □□ □□ □□ (RID) : CW13, CW28, CW31  
 □□□ □□ □□ (RID) : 668

## 14.7. □□□□□□ (IMO) □□ □□ □□ □□

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## □□ 15: □□ □□□□

### 15.1. □□, □□ □ □□□ □□□□ □□□□ □□ □□ □□/□□

EU □□

REACH □□□ XVII (□□ □□)

EU restriction □□ (REACH Annex XVII)	
□□ □□	□□ □□
3(b)	PHOSPHORUS TRICHLORIDE FOR SYNTHESIS

REACH □□□ XIV (□□ □□)

REACH □□□ XIV (□□ □□) □□ □□□□ □□

REACH □□ □□ □□ (SVHC)

REACH □□ □□ □□□ □□□□ □□

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## PIC □□ (□□□□□□)

PIC □□□ □□□□ □□ (□□ EU 649/2012)

## POP □□ (□□□ □□ □□□□)

POP □□□ □□□□ □□ (□□ EU 2019/1021)

## Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

## □□□□ □□ (428/2009)

Listed on the COUNCIL REGULATION (EC) for the control of dual-use items: Phosphorus trichloride.

## □□ □□□□ □□ (2019/1148)

Not listed on the Explosives Precursors list (EU)

## □□ □□□□ □□ (273/2004)

Not listed on the Drug Precursors list (EU)

□□ □□

□□□

□□

WGK

□□□□ □□ □□ (ChemVerbotsV)

: WGK 1, □□ □□ □□ □□ (Classification according to AwSV; ID □□ 1245).

: This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).

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SZW-lijst van kankerverwekkende stoffen

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SZW-lijst van mutagene stoffen

: □□□ □□□□ □□□□□.

SZW-lijst van reprotoxische stoffen – Borstvoeding

: □□□ □□□□ □□□□□.

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid

: □□□ □□□□ □□□□□.

SZW-lijst van reprotoxische stoffen – Ontwikkeling

: □□□ □□□□ □□□□□.

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: Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).  
 Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).  
 The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).  
 Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).  
 Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).  
 Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).  
 The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)  
 Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).  
 Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).  
 ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

## 15.2. □□ □□ □□□ □□

No chemical safety assessment has been carried out

## □□ 16: □ □□ □□□□

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ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	□□ □□ □
BOD	Biochemical oxygen demand (BOD)
CAS □□	□□□□ □□ □□ □□(CAS)
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	□□□ □□ □□□
CSA	□□ □□ □□□ □□
DMEL	Derived Minimal Effect level
DNEL	□□ □□□ □□
EC □□	□□ □□□ □□
EC50	Median effective concentration
ED	□□□ □□□□
EN	□□ □□
EWC	European waste catalogue

# PHOSPHORUS TRICHLORIDE FOR SYNTHESIS

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□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

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IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	□□□ □□ □□
OSHA	Occupational Safety & Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	□□ □□□ □□
PPE	□□ □□□
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	□□□□□□□□
STP	Sewage treatment plant
TF	□□□ □□
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
COV	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	□□ □□ □□□

H-□□ □ EUH-□□ □□:	
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H300	□□□ □□□□.
H314	□□□ □□ □□□ □ □□□ □□□.
H330	□□□□ □□□□.

# PHOSPHORUS TRICHLORIDE FOR SYNTHESIS

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□□ (EU) 2020/878 □□ □□ REACH □□ (EC) 1907/2006 □□

H-□□ □□ EUH-□□ □□:	
H373	□□□ □□ □□ □□□□ □□ □□ □□ □□.
EUH014	□□ □□ □□ □□ □□.
EUH029	□□ □□ □□, □□ □□ □□□□.

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