

Safety Data Sheet

according to 1907/2006/EC, Article 31

Revision: 13.07.2010

Printing date 13.07.2010

1 Identification of substance

Product details

Trade name **Phosphorus (III) bromide**
Stock number: 40191
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
 Benzstrasse 3
 D-76185 Karlsruhe / Germany

E-mail: gcat@matthey.com
 www.alfa-chemcat.com

Informing department: Product safety department.
Emergency information: Giftnotruf Universität Mainz / Poison Information Center Mainz
 www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

2 Hazards identification

Hazard designation:



C Corrosive

Information pertaining to particular dangers for man and environment

R 14 Reacts violently with water.
 R 34 Causes burns.
 R 37 Irritating to respiratory system.

GHS label elements

**Danger**

H314 - Causes severe skin burns and eye damage.

**Warning**

H335 - May cause respiratory irritation.

Prevention:

Response:

EUH014 - Reacts violently with water.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

Disposal:

P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Phosphorus (III) bromide (CAS# 7789-60-8): 100%

Identification number(s):

EINECS Number:

237-178-2

Index number:

015-103-00-6

4 First aid measures

General information After inhalation

Instantly remove any clothing soiled by the product.
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
 Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

Special hazards caused by the material, its products of combustion or flue gases:

Reacts violently with water

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation

Measures for cleaning/collecting:

Do not allow material to be released to the environment without proper governmental permits.

Use neutralizing agent.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Additional information:

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.
 Keep containers tightly sealed.
 Store in cool, dry place in tightly closed containers.
 Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

No special measures required.

Storage Requirements to be met by storerooms and containers:

No special requirements.

Information about storage in one common storage facility:

Store away from water.
 Do not store together with acids.

Further information about storage conditions:

Store under dry inert gas.
 Protect from humidity and keep away from water.
 Keep container tightly sealed.
 Store in cool, dry conditions in well sealed containers.

(Contd. on page 2)

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(Contd. of page 1)

Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 Exposure controls and personal protection

Additional information about design of technical systems:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with critical values that require monitoring at the workplace:	Not required.
Additional information:	No data
Personal protective equipment	The usual precautionary measures should be adhered to in handling the chemicals.
General protective and hygienic measures	Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin.
Breathing equipment:	Use breathing protection with high concentrations.
Eye protection:	Safety glasses Tightly sealed safety glasses.
Body protection:	Full face protection Face protection Protective work clothing.

9 Physical and chemical properties:**General Information**

Form:	Liquid
Colour:	Colourless
Smell:	Pungent

Change in condition	
Melting point/Melting range:	-40°C
Boiling point/Boiling range:	172.9°C
Sublimation temperature / start:	Not determined

Flash point: Not applicable**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product is not explosive.**Critical values for explosion:**

Lower:	Not determined
Upper:	Not determined

Steam pressure: Not determined**Density at 20°C** 2.852 g/cm³**Solubility in / Miscibility with Water:** Reacts violently**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

Materials to be avoided: Water/moisture
Acids
Alkali metals
Bases
Alcohols
Oxidizing agents

Dangerous reactions: Reacts violently with water
Reacts with alkaline metals

Dangerous products of decomposition: Hydrogen bromide
Phosphorus oxides (e.g. P₂O₅)

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral | LDLo | 50 mg/kg (rat)

Primary irritant effect:

on the skin: Corrosive effect on skin and mucous membranes.
Irritant for skin and mucous membranes.

on the eye: Strong corrosive effect.
Irritant effect.

Sensitization: No sensitizing effect known.

Additional toxicological information: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**Additional ecological information:**

General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:

Recommendation Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.

(Contd. on page 3)

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(Contd. of page 2)

**Uncleaned packagings:
Recommendation:**

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 8 (C1) Corrosive substances.
Kemler Number: X80
UN-Number: 1808
Packaging group: II
Label: 8
Designation of goods: 1808 PHOSPHORUS TRIBROMIDE
Limited quantities (LQ): LQ22
Transport category: 2
Tunnel restriction code: E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 8
UN Number: 1808
Label: 8
Packaging group: II
EMS Number: F-A,S-B
Marine pollutant: No
Segregation groups: Acids
Correct technical name: PHOSPHORUS TRIBROMIDE

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 1808
Label: 8
Packaging group: II
Correct technical name: PHOSPHORUS TRIBROMIDE

UN "Model Regulation":

UN1808, PHOSPHORUS TRIBROMIDE, 8, II

15 Regulatory information**Designation according to EC guidelines:**

Code letter and hazard designation of product:



C Corrosive

Risk phrases:

14 Reacts violently with water.
 34 Causes burns.
 37 Irritating to respiratory system.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
 For use only by technically qualified individuals.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent