

**1 Identification of substance****Product details****Trade name****Phosphorus(V) bromide****Stock number:**

B22481, L10953

**Manufacturer/Supplier:**Alfa Aesar GmbH & Co.KG  
Benzstrasse 3  
D-76185 Karlsruhe / GermanyE-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 35 Causes severe burns.**GHS label elements****Danger**

H314 - Causes severe skin burns and eye damage.

**Prevention:**

EUH014 - Reacts violently with water.

**Response:**

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:**

P405 Store locked up.

**Disposal:**

P501 Disposal of contents/container in accordance with local/regional/national/international regulations.

**3 Composition/information on ingredients****Chemical characterization:**

Phosphorus(V) bromide (CAS# 7789-69-7): 100%

**Designation: (CAS#)****Identification number(s):**

232-186-6

**EINECS Number:****4 First aid measures****General information**

Instantly remove any clothing soiled by the product.

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

**After skin contact**

Seek immediate medical advice.

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**CO<sub>2</sub>, sand, 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

Can be released in case of fire:

Phosphorus oxides

Hydrogen bromide (HBr)

Wear self-contained breathing apparatus.

Wear full protective suit.

**Protective equipment:****6 Accidental release measures****Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

**Measures for environmental protection:**

Ensure adequate ventilation

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

**Measures for cleaning/collecting:**

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:**

The product is not flammable

**Storage****Requirements to be met by storerooms and containers:**

No special requirements.

**Information about storage in one common storage facility:**

Store away from water.

Store away from oxidizing agents.

Store away from strong bases.

**Further information about storage conditions:**

Store under dry inert gas.

Protect from humidity and keep away from water.

This product is moisture sensitive.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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

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**8 Exposure controls and personal protection**

<b>Additional information about design of technical systems:</b>	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
<b>Components with critical values that require monitoring at the workplace:</b>	Not required.
<b>Additional information:</b>	No data
<b>Personal protective equipment</b>	The usual precautionary measures should be adhered to in handling the chemicals.
<b>General protective and hygienic measures</b>	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.
<b>Breathing equipment:</b>	Use breathing protection with high concentrations.
<b>Protection of hands:</b>	Check protective gloves prior to each use for their proper condition.
<b>Material of gloves</b>	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
<b>Penetration time of glove material</b>	Impervious gloves
<b>Eye protection:</b>	Not determined Safety glasses Tightly sealed safety glasses. Full face protection
<b>Body protection:</b>	Face protection Protective work clothing.

**9 Physical and chemical properties:**

<b>General Information</b>	
<b>Form:</b>	Lump
<b>Colour:</b>	Yellow
<b>Smell:</b>	Acrid
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	105°C (decomposes)
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined
<b>Flash point:</b>	Not applicable
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Danger of explosion:</b>	Product is not explosive.
<b>Critical values for explosion:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Steam pressure:</b>	Not determined
<b>Density</b>	Not determined
<b>Solubility in / Miscibility with Water:</b>	Decomposes Reacts violently

**10 Stability and reactivity**

<b>Thermal decomposition / conditions to be avoided:</b>	No decomposition if used and stored according to specifications.
<b>Materials to be avoided:</b>	Water/moisture Alcohols Oxidizing agents Bases Active metals Iron metals and steel
<b>Dangerous reactions:</b>	Reacts violently with water
<b>Dangerous products of decomposition:</b>	Phosphorus oxides (e.g. P <sub>2</sub> O <sub>5</sub> ) Hydrogen bromide

**11 Toxicological information**

<b>Acute toxicity:</b>	
<b>Primary irritant effect:</b>	
<b>on the skin:</b>	Strong corrosive effect on skin and mucous membranes.
<b>on the eye:</b>	Strong corrosive effect.
<b>Sensitization:</b>	No sensitizing effect known.
<b>Additional toxicological information:</b>	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:**

<b>Additional ecological information:</b>	
<b>General notes:</b>	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**

<b>Product:</b>	
<b>Recommendation</b>	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.

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**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 (C2) Corrosive substances.  
**Kemler Number:** 80  
**UN-Number:** 2691  
**Packaging group:** II  
**Label:** 8  
**Designation of goods:** 2691 PHOSPHORUS PENTABROMIDE  
**Limited quantities (LQ):** LQ23  
**Transport category:** 2  
**Tunnel restriction code:** E

**Maritime transport IMDG/GGVSea:**

**IMDG/GGVSea Class:** 8  
**UN Number:** 2691  
**Label:** 8  
**Packaging group:** II  
**Marine pollutant:** No  
**Segregation groups:** Acids  
**Correct technical name:** PHOSPHORUS PENTABROMIDE

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** 8  
**UN/ID Number:** 2691  
**Label:** 8  
**Packaging group:** II  
**Correct technical name:** PHOSPHORUS PENTABROMIDE

**UN "Model Regulation":** UN2691, PHOSPHORUS PENTABROMIDE, 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.  
35 Causes severe burns.

**Safety phrases:** 8 Keep container dry.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
30 Never add water to this product.  
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
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)