

编 码:

产品名称: 五氧化二磷



危险

儿童不得接触
使用前请读标签

造成严重皮肤灼伤和眼损伤。

预防:

不要吸入粉尘或烟雾。作业后彻底清洗……。戴防护手套/穿防护衣服/防护面具/防护眼罩。

应急:

如误吞咽: 漱口。不得诱导呕吐。如皮肤(或头发)沾染: 立即去除/脱掉所有沾染的衣服。用水清洗皮肤/淋浴。沾染的衣服清洗后方可重新使用。如误吸入: 将受害人转移到空气新鲜处, 保持呼吸舒适的休息姿势。立即呼叫解毒中心或医生。具体治疗(见安全数据单)。如进入眼睛: 用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出, 取出隐形眼镜。继续冲洗。立即呼叫解毒中心或医生。

贮存:

存放处须加锁。

处置:

处置内装物和容器……

CODE:

PRODUCT NAME: Phosphorus

pentoxide



Danger

Keep out of the reach of children.

Read label before use.

Causes severe skin burns and eye damage.

Prevention:

Do not breathe dusts or mists. Wash ...thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor/... Specific treatment (see Safety Data Sheet). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor/...

Storage:

Store locked up.

Disposal:

Dispose of contents/container to

化学品安全数据单

一、标识

全球统一制度产品标识符：五氧化二磷/ Phosphorus pentoxide。

其它标识办法： /

化学品使用建议和使用限制： /

供货商的详细情况： /

紧急电话号码： /

二、危险标识

物质或混合物的分类：

皮肤腐蚀/刺激第 1B 类，严重眼损伤/刺激第 1 类。

全球统一制度标签要素，包括防范说明：



信号词：危险。

危险说明：造成严重皮肤灼伤和眼损伤。

防范说明：

预防： 不要吸入粉尘或烟雾。作业后彻底清洗……。戴防护手套/穿防护衣服/防护面具/防护眼罩。

应急： 如误吞咽：漱口。不得诱导呕吐。如皮肤（或头发）沾染：立即去除/脱掉所有沾染的衣服。

用水清洗皮肤/淋浴。沾染的衣服清洗后方可重新使用。如误吸入：将受害人转移到空气新鲜处，保持呼吸舒适的休息姿势。立即呼叫解毒中心或医生。具体治疗（见下文）。如进入眼睛：用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出，取出隐形眼镜。继续冲洗。立即呼叫解毒中心或医生。

贮存： 存放处须加锁。

处置： 处置内装物和容器……

不导致分类的其他危险： /

三、组成/成分信息

化学名称	化学文摘社登记号码 (CAS No.)	含量%
五氧化二磷	1314-56-3	99.6

四、急救措施

必要的急救措施

吸入： 迅速脱离现场至空气新鲜处。如呼吸困难，给输氧。就医。

皮肤接触： 脱去污染的衣着，用流动清水冲洗。

眼睛接触： 提起眼睑，用流动清水或生理盐水冲洗。就医。

食入： 如果吞食，禁止催吐。让病人用水漱口，然后慢慢给其饮用大量液体。就医。

最重要的急性和延迟症状/效应： /

必要时注明立即就医及所需的特殊治疗： 对于急性或短时间反复接触强酸：可能因喉头水肿和吸入暴露而引起呼吸道问题。首先采用 100% 的氧气治疗。如果喉头过度水肿不宜做气管插管，呼吸窘迫可能需要做环甲膜切开术。食入：食入后 30 分钟内，建议立即饮牛奶或水稀释。不要尝试去中和酸，因为放热反应可能增大腐蚀伤害。皮肤接触：皮肤损伤用大量生理盐水冲洗。化学灼伤与热伤处理

一样，用不粘结的纱布包裹。眼接触：眼受伤应提起眼睑以保证结膜穹窿部得到彻底冲洗。冲洗至少持续 20-30 分钟。不要使用中和剂或其他添加剂。需要几升的生理盐水。

五、消防措施

适当的灭火剂：化学干粉。BCF(当规定允许时)。二氧化碳。

化学品产生的具体危险：不可燃。无明显的着火危险。酸与金属反应产生一种极易燃并且具有爆炸性的氢气。受热可引起膨胀或分解，会导致容器剧烈破损。可以放出腐蚀性、有毒烟雾。可释放辛辣刺激性的烟雾。

消防人员的特殊防护行为：穿全身防护服并佩戴呼吸设备。用各种方法防止溢出物进入阴沟或水道。从有充足防护的安全距离处灭火。在安全的条件下，关掉电器，直至气体火灾被清除为止。喷水雾来控制火灾并冷却相邻区域。避免直接喷水到液池中。禁止靠近认为是热的容器。从有防护的位置喷水来冷却接触火场中的容器。在安全的条件下，把容器从火场中移走。

六、意外释放措施

人身防范、保护设备和应急程序：清除所有点火源。立即清理所有泄漏物。避免接触皮肤和眼睛。使用采用防护装设备以控制人员接触。采用干燥清理程序，并避免产生粉尘。

环境防范措施：用任何可能的办法防止泄漏物流入阴沟或水道。

抑制和清理的方法和材料：对残留物进行中和/去污。收集固体残留物，密封于贴有标签的桶中，以便废弃处理。冲洗沾染区域，防止废液流入阴沟。完成清理工作后，对所有防护服和设备，在存放和再使用前，应进行去污和清洗。

七、搬运与储存

安全搬运的防范措施：防止所有个体接触，包括吸入。当有暴露风险时，穿戴防护服。在通风良好的区域使用。警告：为防止发生剧烈反应，只能把本物质加入水中，而绝不能把水加入本物质中。禁止吸烟、明火或点火源。避免接触不相容物料。操作处置时，禁止进食、饮水或吸烟。不使用时，保持容器密闭。防止容器受到物理损坏。

安全存储的条件，包括任何不相容性：储存于原装容器中。保持容器安全密封。储存在阴凉、干燥、通风良好的地方。存储于远离不相容材料和食品容器的地方。防止容器受到物理损伤，并定期检查泄漏情况。遵从制造商储存和处理方面的建议。

八、接触控制/人身保护

控制参数：

职业接触限值

来源	成分	物质名称	TWA	STEL
中国工作场所有害因素职业接触限值	磷酸	Phosphoric acid	1 mg/m ³	3 mg/m ³

紧急限制

成分	TEEL-0	TEEL-1	TEEL-2	TEEL-3
五氧化二磷	10 / 1 ppm	30 / 1 ppm	50 / 10 ppm	50 / 250 ppm
磷酸	1 ppm	3 ppm	500 ppm	500 ppm

成分	原 IDLH	修订 IDLH
磷酸	10,000 mg/m ³	1,000 mg/m ³

适当的工程控制：一般需要采取局部通风。如果有过度接触本物质的危险，佩戴认可的呼吸器。

个人防护措施

防护眼罩/面具：带侧边的安全护目镜。化学护目镜。隐形眼镜可能会造成一种特殊危害；软的隐形眼镜可能会吸收和富集刺激物。

皮肤防护：戴化学防护手套(如聚氯乙烯 PVC)。穿安全鞋或安全靴(如橡胶材料)。防护设备的类型必须根据特定工作场所中的危险物的浓度和含量来选择。

呼吸系统防护：呼吸器种类和型号的选择取决于呼吸区域污染物的等级以及污染物的化学性质。

高温危险： /

九、物理及化学性质

外观（物理状态、颜色等）	白色粉末。
气味	/
气味阈值	/
pH 值	/
熔点/凝固点	340-360 ℃
初始沸点和沸腾范围	/
闪点	/
蒸发速率	/
易燃性（固态、气态）	/
上下易燃极限或爆炸极限	/
蒸气压力	/
蒸气密度	/
相对密度（水=1）	2.39。
可溶性	发生剧烈反应
分配系数：n-辛醇/水	/
自动点火温度	/
分解温度	/
粘度	/

十、稳定及反应性

反应性： /

化学稳定性：与碱性物质接触会释放出热量。

危险反应的可能性：无机酸和碱（如胺和无机氢氧化物）发生中和反应生成盐。中和反应能在狭小的空间内生成大量的热具有危险性。无机酸溶于水或者用水稀释浓溶液时都会产生大量的热。无机酸会与活泼金属（包括铝和铁等结构性金属）反应，释放出易燃的氢气。无机酸能够引发某些有机化合物发生聚合反应。酸往往能提高化学反应速度。

应避免的条件：磷酸盐与氧化剂和还原剂是禁配的。存在强还原剂如氢化物时，磷酸盐很容易生成剧毒而易燃的磷化氢。磷酸盐被氧化剂不完全氧化能生成有毒的磷氧化物。必须与酒精、水隔离开。

不相容材料：氧化剂、还原剂、碱类。

危险分解产物：磷的含氧化物(PO_x)。

十一、毒理学信息

暴露途径：吸入，食入，经皮吸收，眼睛接触。

有关物理、化学和毒理学特点的症状：

急性毒性效应：

吸入：本物质能够对某些人造成呼吸道刺激。人体对该刺激的反应会造成进一步的肺损伤。

食入：食入酸性腐蚀物可能导致口腔周围或内部、咽喉和食道的灼伤。

皮肤：直接接触本物质可能立即或延迟一段时间后造成皮肤中度炎症。

眼睛：如果进入眼睛，该物质会造成严重眼睛损伤。

慢性毒性或长期毒性效应：反复或长时间接触酸类物质，可能引起牙齿的腐蚀、口腔粘膜的肿胀和/或溃疡。刺激呼吸道及肺部，并通常伴有咳嗽和肺部组织炎症。长期接触可能导致皮炎或结膜炎。

毒性的数值度量（如急性毒性估计值）：

毒性	刺激性
Inhalation (Guinea pig) LC50: 61 mg/m ³ /h	Eye: SEVERE
Inhalation (Mouse) LC50: 271 mg/m ³ /h	Skin : S VERE
Inhalation (Rabbit) LC: 5000 mg/m ³ /2h	
Inhalation (Rabbit) LC50: 1689 mg/m ³ /h	
Inhalation (rat) LC50: 1217 mg/m ³ /1h	

十二、生态信息

毒性： /

持久性及降解性： /

生物累积潜力： /

在土壤中的流动性： /

其它有害效应： /

十三、处置考虑

处置方法：尽可能回收本物质。如果不能确定有合适的处理或废弃处置设备，联系制造商有关回收方法，或联系当地或地区的废物管理部门有关废弃方法。在许可的处理厂治理、中和本物质。处理方法包括：在水中混合或形成泥浆；随后用碱石灰或苏打灰进行中和处理；在有许可证的填埋处进行掩埋或在有许可证的焚化场进行焚化(与适当的可燃物质混合后)。用5%氢氧化钠水溶液或苏打灰对空的容器进行去污处理，然后用水冲洗。遵守所有的标注规定，直至容器被清洗或销毁为止。

十四、运输信息

联合国编号： 1807。

联合国运输名称： 五氧化二磷。

运输危险种类： 8。

包装类别： II

环境危险： /

使用者的特殊防范措施： /

十五、管理信息

国内化学品安全法规：

本安全数据单遵照了以下相关国家标准：GB16483-2008，GB13690-2009，GB18218-2009，GB15258-2009，GB6944-2005，GB190-2009，GB191-2009，GB12268-2008，GA57-1993，GB/T 15098-2008，GBZ 2-2007以及相关法规：《危险货物运输管理规则》、《危险化学品安全管理条例》。

十六、其它信息

参考文献

联合国《关于危险货物运输的建议书·规章范本》

联合国《全球化学品统一分类和标签制度》

制表日期	2014年07月17日
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注 1：当产品为含有两种以上危险物质的混合物时，应依据其混合后的危险性，制作安全数据单。

注 2：制造商/供应商应根据实际情况确保安全数据单所含信息的正确性，并适时更新。

注 3：如由于产品特性而不存在或不可得某些信息时（如固体不存在沸点），应在表格中以“/”标识。

Chemical Safety Data Sheet

SECTION 1 IDENTIFICATION

GHS Product identifier: Phosphorus pentoxide.

Other means of identification: /

Recommended use of the chemical and restrictions on use: /

Supplier's details: /

Emergency phone number: /

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Skin Corrosion/Irritation Category 1B.

Serious Eye Damage/Eye Irritation Category 1.

GHS Label elements, including precautionary statements



Signal word: Danger.

Hazard statement(s): Causes severe skin burns and eye damage.

Precautionary statement(s):

Prevention: Do not breathe dusts or mists. Wash ...thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor/... Specific treatment (see below). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor/...

Storage: Store locked up.

Disposal: Dispose of contents/container to

Other hazards which do not result in classification: /

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Phosphorus pentoxide	1314-56-3	99.6

SECTION 4 FIRST AID MEASURES

Description of necessary first aid measures

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: If swallowed do NOT induce vomiting. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Consult a physician.

Most important symptoms and effects, both acute and delayed: /

Indication of immediate medical attention and special treatment needed: For acute or short term repeated exposures to strong acids: Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially. Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling. **INGESTION:** Immediate dilution (milk or water) within 30 minutes post ingestion is recommended. **DO NOT** attempt to neutralise the acid since exothermic reaction may extend the corrosive injury. **SKIN:** Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping. **EYE:** Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT** use neutralising agents or any other additives. Several litres of saline are required.

SECTION 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Dry chemical powder. BCF (where regulations permit). Carbon dioxide.

Special hazards arising from the chemical: Non combustible. Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers. May emit corrosive, poisonous fumes. May emit acrid smoke.

Special protective actions for fire-fighters: Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. **DO NOT** approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all ignition sources. Clean up all spills immediately. Avoid contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Use dry clean up procedures and avoid generating dust.

Environmental precautions: Prevent, by any means available, spillage from entering drains or water course.

Methods and materials for containment and cleaning up: Neutralise/decontaminate residue. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling: Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. **WARNING:** To avoid violent reaction,

ALWAYS add material to water and NEVER water to material. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers.

Conditions for safe storage, including any incompatibilities: Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this MSDS.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

OCCUPATIONAL EXPOSURE LIMITS (OEL)

Source	Ingredient	Material name	TWA	STEL
Occupational Exposure Limit for Hazardous Agents in the Workplace	phosphoric acid	Phosphoric acid	1 mg/m ³	3 mg/m ³

EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
phosphorus pentoxide	10 / 1 ppm	30 / 1 ppm	50 / 10 ppm	50 / 250 ppm
phosphoric acid	1 ppm	3 ppm	500 ppm	500 ppm

Ingredient	Original IDLH	Revised IDLH
phosphoric acid	10,000 mg/m ³	1,000 mg/m ³

Appropriate engineering controls: Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

Personal protective equipment

Eye/face protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection: Wear chemical protective gloves, eg. PVC. Wear safety footwear or safety gumboots, eg. Rubber. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White powder
Odour	/
Odour Threshold	/
pH	/
Melting point/freezing point	340-360 °C
Initial boiling point and boiling range	/
Flash point	/
Evaporation rate	/
Flammability (solid, gas)	/
Upper/lower flammability or explosive limits	/
Vapour pressure	/
Vapour density	/

Relative density (water=1)	2.39
Water solubility	Reacts Violently
Partition coefficient: noctanol/water	/
Autoignition temperature	/
Decomposition temperature	/
Viscosity	/

SECTION 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: Contact with alkaline material liberates heat.

Possibility of hazardous reactions: Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces. The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat. Inorganic acids react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Inorganic acids can initiate the polymerisation of certain classes of organic compounds. Acids often catalyse (increase the rate of) chemical reactions.

Conditions to avoid: Phosphates are incompatible with oxidising and reducing agents. Phosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation of phosphates by oxidizing agents may result in the release of toxic phosphorus oxides. Segregate from alcohol, water.

Incompatible materials: oxidising and reducing agents, bases.

Hazardous decomposition products: phosphorus oxides (PO_x).

SECTION 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, swallowed, skin, eyes.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects

Inhalation: The material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage.

Ingestion: Ingestion of acidic corrosives may produce circumoral burns with a distinct discolouration of the mucous membranes of the mouth, throat and oesophagus.

Skin: The material produces moderate inflammation of the skin in a substantial number of individuals following direct contact,

Eyes: The material produces severe ocular lesions after instillation.

Chronic health effects: Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

Numerical measures of toxicity(such as acute toxicity estimates):

TOXICITY	IRRITATION
Inhalation (Guinea pig) LC50: 61 mg/m ³ /h	Eye: SEVERE
Inhalation (Mouse) LC50: 271 mg/m ³ /h	Skin : SEVERE
Inhalation (Rabbit) LC: 5000 mg/m ³ /2h	

Inhalation (Rabbit) LC50: 1689 mg/m³/h

Inhalation (rat) LC50: 1217 mg/m³/h

SECTION 12 ECOLOGICAL INFORMATION

Toxicity: /

Persistence and degradability: /

Bioaccumulative potential: /

Mobility in soil: /

Other adverse effects: /

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods: Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurring in water; Neutralisation with soda-lime or soda-ash followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material). Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

UN number: 1807.

UN proper shipping name: PHOSPHORUS PENTOXIDE

Transport hazard class(es): 8.

Packaging group: II.

Environmental hazards: /

Special precautions for user: /

SECTION 15 REGULATORY INFORMATION

Regulations:

This safety data sheet is in compliance with the following national standards: GB16483-2008, GB13690-2009, GB18218-2009, GB15258-2009, GB6944-2005, GB190-2009, GB191-2009, GB12268-2008, GA57-1993, GB/T 15098-2008, GBZ 2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

SECTION 16 OTHER INFORMATION

References	“Model Regulations on the Transport of Dangerous Goods” “The Globally Harmonized System of Classification and Labelling of Chemicals”
Form Date	17-July-2014

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.



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PHOSPHORUS PENTOXIDE

UN 1807