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

1.1. Product identifier

Trade name: **POTASSIUM DIHYDROGENORTHOPHOSPHATE**

Article code: KDP

CAS Number:

7778-77-0

EC number:

231-913-4

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

Application of the substance / the mixture: X-rays monochromator crystal.

Uses advised against: Other uses than the identified uses indicated above.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Saint-Gobain Cristaux & Détecteurs

104, Route de Larchant

F-77140 Saint-Pierre-Les-Nemours

Telephone: 0033 (0) 1 64 45 10 10

Fax: 0033 (0) 1 64 45 10 01

Further information obtainable from: customer.service.SGCD@saint-gobain.com

1.4. Emergency telephone number

Centre anti poison et de toxicovigilance (Intoxication centre)

Phone: Paris: +33 (0) 1 40 05 48 48, Marseille: +33 (0) 1 91 75 25 25

* SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

The substance is not classified according to the CLP regulation.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008: void

Hazard pictograms: void

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Signal word: void

Hazard statements: void

2.3. Other hazards

Results of PBT and vPvB assessment: This substance does not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

CAS No. Description

7778-77-0 Potassium dihydrogenorthophosphate (100%), colourless crystal

Identification number(s):

EC number: 231-913-4

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Take off all contaminated clothing.

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Protect unharmed eye.

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

Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing:

Rinse mouth.

Do not induce vomiting; call for medical help immediately.

4.2. Most important symptoms and effects, both acute and delayed No further relevant information available.

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

First Aid, decontamination, treatment of symptoms.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2. Special hazards arising from the substance or mixture

The product is non flammable.

In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Harmful pyrolysis products

Phosphorus oxides

5.3. Advice for firefighters

Protective equipment:

Do not inhale explosion gases or combustion gases.

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information:

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Avoid formation of dust.

Wear protective equipment. Keep unprotected persons away.

Remove persons from danger area.

Avoid any contact with eyes or skin.

Do not inhale dust / smoke / mist.

6.2. Environmental precautions Dumping into the environment must be prevented.

6.3. Methods and material for containment and cleaning up

Remove mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See section 1 for emergency contact details.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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* **SECTION 7: Handling and storage**

7.1. Precautions for safe handling

Avoid contact with eyes or skin. Wear personal protective equipment.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Provide adequate ventilation as well as local exhaust at critical locations.

Information about fire - and explosion protection:

The product is not flammable.
 Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Store only in the original container.

Information about storage in one common storage facility:

Keep away from food, drink and animal feeding stuffs.
 Store away from flammable substances.

Further information about storage conditions:

Store in cool, dry conditions in well sealed containers.
 Protect from heat and direct sunlight.
 Protect from humidity and water.

7.3. Specific end use(s) See section 1.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities:

Technical measures and the application of adequate working methods take priority over the use of personal protection equipment.

8.1. Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

DNELs		
Inhalative	DNEL - long term - systemic	3.04 mg/m ³ (consumer) 4.07 mg/m ³ (worker)
PNECs		
PNEC	0.05 mg/l (fresh water) 0.5 mg/l (intermittent release)	

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0.005 mg/l (marine water)
50 mg/l (sewage treatment plant)

Additional information: The lists valid during the making were used as basis.

8.2. Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Avoid contact with the eyes and skin.

Do not inhale dust / smoke / mist.

Ensure that washing facilities are available at the work place.

Wash hands before breaks and at the end of work.

Do not eat, drink, smoke or sniff while working.

Immediately remove all soiled and contaminated clothing.

Store protective clothing separately.

Respiratory protection:

With correct and proper use, and under normal conditions, breathing protection is not required.

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, a self-contained breathing apparatus must be used!

Suitable respiratory protective equipment:

Filter P1

Protection of hands:

Tested protective gloves are to be worn. When handling chemical substances, chemical protective gloves must be worn with CE label including a four digit code. Type of chemical protective gloves to choose depends on the concentration and quantity of dangerous substances as well as on work place specifications. In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves:

Recommendation:

Rubber gloves

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Eye protection: Safety glasses

Body protection:
Protective work clothing
Boots

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Information

Appearance:

Form:	Solid Crystalline
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.

pH-value (50 g/l) at 20 °C: ~ 4.4

Change in condition

Melting point/Melting range:	~ 253 °C
Boiling point/Boiling range:	> 450 °C

Flash point: Not applicable.

Flammability (solid, gaseous): Product is not flammable.

Ignition temperature: Not determined.

Decomposition temperature: ~ 253 °C

Self-igniting: Product is not selfigniting.

Danger of explosion: Not explosive.

Vapour pressure: Not applicable.

Density at 20 °C: 2.34 g/cm³

Solubility in / Miscibility with
water at 20 °C: 222 g/l

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Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

9.2. Other information

Molecular weight: 136.09 g/mol

* **SECTION 10: Stability and reactivity**

10.1. Reactivity The product is stable under standard conditions (temperature, pressure) of storage and handling.

10.2. Chemical stability

The product is stable under standard conditions (temperature, pressure) of storage and handling.

10.3. Possibility of hazardous reactions No dangerous reactions known.

10.4. Conditions to avoid

Avoid generation of dust.

Heat

Water/ moisture

10.5. Incompatible materials Oxidizing agents

10.6. Hazardous decomposition products

In case of fire, the following products can be released:

Harmful pyrolysis products

Phosphorus compounds

* **SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Acute toxicity: Based on available data, the classification criteria are not met.

LD/LC50 values:

Oral	LD50	> 2000 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rabbit)

Primary irritant effect:

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

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Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

* **SECTION 12: Ecological information**

12.1. Toxicity

Aquatic toxicity:	
LC50	92 mg/l (<i>Dreissena polymorpha</i>) (24h)
NOEC	200 mg/l (<i>Hyla chrysoscelis</i>) (15d)

12.2. Persistence and degradability

Methods for determination of degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential No indication of bio-accumulation potential.

12.4. Mobility in soil No further relevant information available.

General notes:

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

Avoid transfer into the environment.

12.5. Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6. Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recommendation:

Waste disposal according to official state regulations.

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Hand over to officially registered waste disposal company.

Uncleaned packaging:

Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

14.1. UN-Number

ADR, ADN, IMDG, IATA

Void.

14.2. UN proper shipping name

ADR, ADN, IMDG, IATA

Void.

14.3. Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void.

14.4. Packing group

ADR, IMDG, IATA

Void.

14.5. Environmental hazards

Marine pollutant:

No

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of Marpol
and the IBC Code

Not applicable.

UN "Model Regulation":

Void.

* SECTION 15: Regulatory information

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

EU-Regulations

Regulation (EC) No 1907/2006 (REACH)

Regulation (EC) No 1272/2008 (CLP)

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National regulations:

Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning women of child-bearing age must be observed.

Other regulations, limitations and prohibitive regulations: National legislation has to be observed!

15.2. Chemical safety assessment A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Training hints:

The product should only be handled by persons, who were informed sufficiently about the nature of the product and about the necessary safety precautions.

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)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised 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)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.