45202 Prussian Blue LUX

1. Identification of the Substance/Mixture and of the Company/Undertaking

1. 1. Product Identifier

Product Name: *Prussian Blue LUX*

Article No.: *45202*

1. 2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:

Pigment

Uses advised against:

1. 3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company: *Kremer Pigmente GmbH & Co. KG*

Address: *Hauptstr. 41-47, 88317 Aichstetten, Germany*

Tel./Fax.: *Tel +49 7565 914480, Fax +49 7565 1606*

Internet: *www.kremer-pigmente.com*

EMail: *info@kremer-pigmente.com*

Importer: --

1. 4. Emergency No.

Emergency No.: *+49 7565 914480 (Mon-Fri 8:00 - 17:00)*

1. 4. 2 Poison Center:

2. Hazards Identification

2. 1. Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Chronic aquatic toxicity, hazard category 4

H413 May cause long lasting harmful effects to aquatic life.
Cat.: 4

Possible Environmental Effects:

2. 2. Label Elements

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

This product is classified and labelled according to CLP/GHS regulations.

Hazard designation:

Not applicable.

Signal word:

Hazard designation:

H413 May cause long lasting harmful effects to aquatic life.
EUH032 Contact with acids liberates very toxic gas.

Safety designation:

P273 Avoid release to the environment.
P501 Dispose of contents/ container according to regional, national and

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international regulations.

Hazardous components for labelling:

2. 3. Other Hazards

3. Composition/Information on Ingredients

3. 1. Substance

3. 2. Mixture

Chemical Characterization: *Inorganic pigment*

Information on Components / Hazardous Ingredients:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1) (Aqu.Chr.4, H413-EUH032); REACH Reg.No. 01-2119555296-32-xxxx	100 %	CAS-Nr: 25869-00-5 EINECS-Nr: 247-304-1 EC-Nr:

Additional information:

4. First Aid Measures

4. 1. Description of the First Aid Measures

General information:

Combustion gases can contain hydrocyanic acid. Observe self-protection.
Remove affected person from danger area.
Alert an emergency physician immediately (Keyword: hydrocyanic acid intoxication).
Possible signs of intoxication: headache, dizziness, drowsiness, nausea, seizures, unconsciousness, respiratory disorders, apnea, cardiac arrest.
Take affected persons out into the fresh air.
Do not leave affected persons unattended.
Keep affected person warm in a calm area.

After inhalation:

Take affected person to fresh air.
Consult physician if symptoms persist.
Oxygen therapy in case of impaired breathing.
If breathing ceases, apply artificial respiration or oxygen.
Do not give mouth-to-mouth or mount-to-nose resuscitation.
In case of unconsciousness place patient stable in side position for transportation.

After skin contact:

Remove contaminated clothing immediately.
Wash with soap and rinse with plenty of water.

After eye contact:

Rinse open eyes with plenty of water for at least 15 minutes.
Seek medical attention if irritation persists.

After ingestion:

If symptoms persist consult physician.
Rinse mouth with plenty of water and consult physician.

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4. 2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:

No further information available.

Effects:

4. 3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:

After swallowing larger amounts of product: acceleration of the gastrointestinal tract
Therapy as in the case of a hydrocyanic acid intoxication.
Treat symptomatically.
Artificial respiration and/or oxygen may be required.

5. Fire-Fighting Measures

5. 1. Extinguishing Media

Suitable extinguishing media:

Foam, water jet.

Unsuitable extinguishing media:

Water with full jet.

5. 2. Special Hazards arising from the Substance or Mixture

Special hazards:

In case of fire: formation of carbon oxides, ammonium, hydrocyanic acid cyanides, nitrogen oxides.

5. 3. Advice for Firefighters

Protective equipment:

Wear self-contained respiratory protective device and protective clothing.

Further information:

Collect contaminated extinguishing water and debris separately; avoid contamination of sewage system.

6. Accidential Release Measures

6. 1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Wear protective clothing.
Avoid formation of dust.
Provide adequate ventilation. Keep away from sources of ignition.
Avoid formation of dust.

6. 2. Environmental Precautions

Environmental precautions:

Prevent contamination of soils, drains and surface water.

6. 3. Methods and Material for Containment and Cleaning Up

Methods and material:

Take up mechanically and collect in suitable containers for disposal.
Avoid dust formation.

6. 4. Reference to other Sections

Dispose of contaminated material according to Section 13.
Protective clothing, see Section 8.

7. Handling and Storage

7. 1. Precautions for Safe Handling

Instructions on safe handling:

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

Hygienic measures:

Avoid contact with skin, eyes and clothing. Do not inhale dust.

7. 2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store in tightly sealed containers in a cool and well ventilated location.
Store in a cool and dry place.
Avoid long-term storage of preparations made of Prussian Blue and drying oils due to its´ self-heating effects.

Requirements for storage areas and containers:

No special measures necessary.

Information on fire and explosion protection:

Do not store together with: oxidants.
Do not store together with: acids and bases.
Keep away from sources of ignition - do not smoke.
Dust may form an explosive mixture with air.
Take measures to prevent electrostatic discharge.
Product smoulders but is not combustible. Ground all equipment.
For on site repair work, especially when burning or welding, the plant must be completely free of Prussian Blue. Shrink wrapping should not be carried out using open flames. Risk of dust explosion.
Dust explosion class 1 (Kst-value > 0 - 200 bar m/s).

Storage class:

13; Non combustible solids (TRGS 510)

Further Information:

Shelf-life: > 12 months

7. 3. Specific End Use(s)

Further information:

8. Exposure Controls/Personal Protection

8. 1. Parameters to be Controlled

Parameters to be controlled (DE):

none known

Parameters to be controlled:

Derived No-Effect Level (DNEL):

176.3 mg/m3 (worker, inhalation)
250 mg/m3 (worker, skin contact)

Predicted No-Effect Concentration (PNEC):

Fresh water: 1.42 µg/l
Sea water: 0.142 µg/l
Sewage treatment system (STP): 10 mg/l

Additional Information:

8. 2. Exposure Controls

Technical protective measures:

Provide adequate ventilation.

Personal Protection

General protective measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Avoid contact with skin, eyes and clothing.
Do not inhale gas/fumes/vapor/aerosol.
Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

Respiratory protection:

Required in case of insufficient ventilation.
In case of higher concentration or long-term exposure of dust: particle filter type P1 or FFP1, EN 143 or 149 (for solid particles).

Hand protection:

Protective gloves (EN 374)

Protective glove material:

Cotton, PVC-coated or rubber

Eye protection:

Safety glasses with protective shields (EN 166).

Body protection:

Protective clothing, chemical resistant.

Environmental precautions:

Suppress dust with a water spray jet.

9. Physical and Chemical Properties

9. 1. Information on Basic Physical and Chemical Properties

Form:	*powder*
Color:	*blue*
Odor:	*odorless*

Odor threshold:

No information available.

pH-Value:	*3 - 6 (20 g/l, 20°C)*
Melting temperature:	*not applicable*
Boiling temperature:	*not available*
Flash point:	*not applicable*
Evaporation rate:	*not applicable*
Flammability (solid, gas):	*> 600°C*
Upper explosion limit:	*not determined*
Lower explosion limit:	*250 g/m3*
Vapor pressure:	*not applicable*
Vapor density:	*No information available.*
Density:	*1.9 g/cm3*
Solubility in water:	*insoluble*
Coefficient of variation (n-Octanol/Water):	*not applicable*
Auto-ignition temperature:	*> 140°C*
Decomposition temperature:	*> 140°C*
Viscosity, dynamic:	*not applicable*
Explosive properties:	*Product is not explosive; however, an explosive dust/air mixture can be formed.*
Oxidizing properties:	*No information available.*
Bulk density:	*150 kg/m3*

9. 2. Further Information

Solubility in solvents:

Viscosity, kinematic:

Burning class:

Solvent content:

Solid content:

Particle size:

Other information:

Impact sensitivity: not sensitive to impact
Minimal explosive dust concentration: 1 m3 standard container, ignition energy 10 kJ
Dust explosion class: ST1
Minimal ignition temperature: >600°C

10. Stability and Reactivity

10.1. Reactivity

Stable if used according to specifications.

10.2. Chemical Stability

Stable at room temperature.

10.3. Possibility of Hazardous Reactions

Reacts with acids, bases and oxidizing agents.

10.4. Conditions to Avoid

Conditions to avoid:

Avoid ignition sources.
Avoid contact with heat, sparks and open fire.

Thermal decomposition:

10.5. Imcompatible Materials

Alkalies, strong acids, oxidizing agents.

10.6. Hazardous Decomposition Products

Carbon monoxide, nitrogen oxides, ammonia, hydrocyanic acid.
Cynide compouds.

10.7. Further Information

11. Toxicological Information

11. 1. Information on Toxicological Effects

Acute Toxicity

LD50, oral:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1): LD50: 5110 mg/kg (rat; OECD 401)

LD50, dermal:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1): LD50: 2000 mg/kg (rat)

LC50, inhalation:

No information available.

Primary effects

Irritant effect on skin:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1): non irritating (24-72h, rabbit; OECD 404)

Irritant effect on eyes:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1): no irritating effect (rabbit; OECD 405)

Inhalation:

No information available.

Ingestion:

No information available

Sensitization:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1): non sensitizing (mouse; OECD 429)

Mutagenicity:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1):
In vitro genetic-toxicity: Ames-Test negative (Salmonella typhimurium; OECD 471)
In vitro genetic-toxicity: negative (OECD 476, mouse lymphona cells)

Reproductive toxicity:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1):
No information available.

Carcinogenicity:

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1):
No relevant data found.

Teratogenicity:

No information available.

Specific target organ toxicity (STOT):

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1):
Single exposure: no information available.
Repeated exposure:
NOAEL: 428.6 mg/kg (11 days, oral, dog)

Additional toxicological information:

Aspiration hazard: not applicable
When used and handled according to specifications, the product does not have any harmful effects. The product is not subject to classification according to latest version of the General EU Classification Guidelines for Preparations.

12. Ecological Information

12. 1. Aquatic Toxicity

Ferrate(4-), hexakis(cyano-C), ammonium iron(3+) (1:1:1):

Fish toxicity:

NOEC: > 1000 mg/l (96h, Leuciscus idus; OECD 203)

Daphnia toxicity:

EC50: > 500 mg/l (24h, Daphnia magna; OECD 202)

Bacteria toxicity:

EC50: 2290 mg/l (3h, active sludge)
EC10: 100 mg/l (3h, active sludge; OECD 209)

Algae toxicity:

9.7 mg/l (72h, Selenastrum capricornutum; OECD 201)

12. 2. Persistency and Degradability

Inorganic substance. Biological degradability is not affected.

12. 3. Bioaccumulation

No information available.

12. 4. Mobility

No information available.

12. 5. Results of PBT- und vPvP Assessment

This product is neither a PBT or vPvB substance nor does it contain a PBT or vPvB substance.

12. 6. Other Adverse Effects

Water hazard class:

1, slightly hazardous

Behaviour in sewage systems:

Further ecological effects:

Do not let product enter waterways or sewage system.

AOX Value:

13. Disposal Considerations

13. 1. Waste Treatment Methods

Product:

Dispose of according to official national and local regulations.

European Waste Code (EWC):

Uncleaned packaging:

Uncontaminated packaging may be recycled.
Contaminated packaging must be disposed like the substance.

Waste Code No.:

14. Transport Information

14. 1. UN Number

ADR, IMDG, IATA

14. 2. UN Proper Shipping Name

ADR/RID:

No hazardous goods according to ADR (land transportation).

IMDG/IATA:

No hazardous goods according to IMDG.

14. 3. Transport Hazard Classes

ADR Class:

not applicable

Hazard no.:

Classification code:

Tunnel restriction code:

IMDG Class (sea):

Hazard no.:

EmS No.:

IATA Class:

not applicable

Hazard no.:

14. 4. Packaging Group

ADR/RID:

not applicable

IMDG:

IATA:

14. 5. Environmental Hazards

None

14. 6. Special Precautions for User

Not classified as a dangerous good under transport regulations.

14. 7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code

not applicable

14. 8. Further Information

15. Regulatory Information

15. 1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

1, slightly hazardous for water (German Regulation)

Local regulations on chemical accidents:

Employment restrictions:

Restriction and prohibition of application:

Technical instructions on air quality:

15. 2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this product.

15. 3. Further Information

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.