

ALADDIN SCIENTIFIC CORPORATION
14078 Meridian Parkway, Riverside, CA. 92518

SAFETY DATA SHEET

Version: v1
Revision Date: 2023-10-08
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Black phosphorus powder
Product Number : B196539
Brand : aladdin
CAS-No. : 7723-14-0(Powder)

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 800-424-9300
CHEMTREC®, Outside the USA : 001-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable Solids (Class 1), H228

Acute (short-term) aquatic hazard (Category 3), H402

Long-term aquatic hazard (Category 3), H412

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H228

Flammable solid

H412

Harmful to aquatic life with long lasting effects

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Precautionary statement(s)

P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire: Use ... to extinguish.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Black Phosphorus
Formula	: P
Molecular weight	: 30.97
CAS No.	: 7723-14-0(Powder)
EC-NO.	: no data available

Component	Classification	Concentration
Black phosphorus powder	Flammable solids Category 1; acute (short long-term) aquatic hazard Category 3; long-term water Biohazard Category 3; H228, H402, H412	no data available

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this safety data sheet to the doctor on site.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Immediately remove/take off all soiled clothing. Wash skin/shower with water.

In case of eye contact

After eye contact: Wash off with plenty of water. Remove contact lenses.

If swallowed

After swallowing: Immediately drink water (up to 2 glasses). If you feel unwell, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described on the label (see Section 2.2) and/or Section 11

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4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon Dioxide (CO₂) Dry Powder

Unsuitable extinguishing media

For this substance/mixture, no restrictions on extinguishing agents are specified.

5.2 Special hazards arising from the substance or mixture

Phosphorus oxides are flammable. In the event of fire, hazardous gases or vapours may be generated.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel Avoid breathing dust. Avoid contact with substances. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate hazardous areas, follow emergency procedures, and seek expert advice. For personal protection, see Section 8.

6.2 Environmental precautions

Do not allow product to enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover the drain. Collect, contain, and extract spills. Observe material restrictions that may apply (see Sections 7 and 10). Remove dry. Discard. Clean affected area. Avoid dust generation.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep away from open flames, hot surfaces and ignition sources. Take measures to prevent electrostatic discharge. Change contaminated clothing. Wash hands after handling this material. See section 2.2 for precautions.

7.2 Conditions for safe storage, including any incompatibilities

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Tightly closed. Keep away from heat and sources of ignition.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: floccus solid powder color: Black
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available

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e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

Reacts with explosion hazard: Halogenates, Nitrates, Bromates, Chlorates, Chromium Oxychlorides, Chlorosulfuric Acids, Halogens, Iodates, Perchlorates, Organics may cause fire or generate flammable gases or vapors when interacting with them: Combustion-supporting substances Oxidizers Peroxides Sulfur Non-metal Oxyhalides Hydrogen peroxide Alkaline

10.4 Conditions to avoid

heating.

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - Female - > 15,000 mg/kg

(OECD Test Guideline 401)

Symptoms: Symptoms of irritation in the respiratory tract

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eye - Rabbit Result: No eye irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Buehler Guinea Pig Test - Guinea Pig Result: Negative (OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames Test System: Escherichia coli/Salmonella Typhimurium Metabolic Activation: With or Without

Metabolic Activation Method: OECD Test Guide 471 Result: Negative Test Type: In Vitro Chromosome Aberration

Test System: Chinese Hamster Lung Cell Metabolic Activation: With or Without Metabolic Activation Method: OECD

Test Guide 473 Result: Negative Test Type: In Vitro Mammalian Cell Gene Mutation Test Testing system: Metabolic

activation of Chinese hamster lung cells: with or without metabolic activation effect Method: OECD testing guideline

476 Result: negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

To the best of our knowledge, this chemical, physical and toxic property has not been fully studied.

After inhaling dust:

After taking large amounts:

pneumonia

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

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12.1 Toxicity

Toxicity to fish static test LC50 - Danio rerio (zebrafish) - 33.2 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to water fleas and other aquatic invertebrates

Static test EC50 - Daphnia magna (Water flea) - 10.5 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) - 18.3 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - > 1,000 mg/l - 3 h

(OECD Test Guideline 209)

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Avoid discharge into the surrounding environment.

SECTION 13:

13.1 Disposal considerations

Product

Dispose of residual and non-recyclable solution to a licensed company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

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UN number: 1338	Packing group: III	Class: 4.1
Proper shipping name: Phosphorus, amorphous	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: yes		
IMDG		
UN number: 1338	Packing group: III	EMS-No: no data available
Proper shipping name: Phosphorus, amorphous		
IATA		
UN number: 1338	Packing group: III	Class: 4.1
Proper shipping name: Phosphorus, amorphous		

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

Prepared By	Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com
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