

# SAFETY DATA SHEET

BRADY'S REAGENT

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Compilation date: 08/08/2022

Revision No: 1

## Section 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product name:** BRADY'S REAGENT

**CAS number:** 124038-14-4

**Synonyms:** 2,4-DINITROPHENYLHYDRAZINE PHOSPHORIC ACID SOLUTION

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

**Use of substance / mixture:** Laboratory Chemicals, Manufacture of Substances.

### 1.3. Details of the supplier of the safety data sheet

**Company name:** SELECT SCHOOL SUPPLIES

THE OLD GRANARY

OSWESTRY

SY11 4PD

**Tel:** 01691 770366

**Email:** [sales@selectschoolsupplies.co.uk](mailto:sales@selectschoolsupplies.co.uk)

### 1.4. Emergency telephone number

**Emergency tel:** 01691 770366

(office hours only)

## Section 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification under CLP:** Skin Corr. 1B: H314; Flam. Liq. 3: H226; Met. Corr. 1: H290

**Most important adverse effects:** Causes severe skin burns and eye damage. Flammable liquid and vapour. May be corrosive to metals.

### 2.2. Label elements

**Label elements:**

**Hazard statements:** H314: Causes severe skin burns and eye damage.

H226: Flammable liquid and vapour.

H290: May be corrosive to metals.

**Hazard pictograms:** GHS02: Flame

GHS05: Corrosion



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**Signal words:** Danger

**Precautionary statements:** P260: Do not breathe dust/fumes/gas/mist/vapours/spray.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301+330+331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
Rinse skin with.  
P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P370+378: In case of fire: Use dry sand, dry chemical or alcohol resistant foam to extinguish.  
P403: Store in a well-ventilated place.

### 2.3. Other hazards

**Other hazards:** In use, may form flammable / explosive vapour-air mixture.

**PBT:** This product is not identified as a PBT/vPvB substance.

## Section 3: Composition/information on ingredients

### 3.2. Mixtures

#### Hazardous ingredients:

##### ORTHOPHOSPHORIC ACID

EINECS	CAS	PBT / WEL	CLP Classification	Percent
231-633-2	7664-38-2	-	Skin Corr. 1B: H314	30-50%

##### ETHANOL

200-578-6	64-17-5	Substance with a Community workplace exposure limit.	Flam. Liq. 2: H225	30-50%
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##### 2,4-DINITROPHENYLHYDRAZINE

204-309-3	119-26-6	-	Flam. Sol. 1: H228; Acute Tox. 4: H302	1-10%
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## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water. In case of skin reactions, consult a Doctor

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Protect Uninjured eye. Consult a doctor.

**Ingestion:** Wash out mouth with water. Do not induce vomiting. Give nothing to eat or drink. Consult a doctor.

**Inhalation:** Immediately call the POISON CENTRE or a doctor. Remove casualty from exposure

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ensuring one's own safety whilst doing so. If breathing is irregular or stopped, administer artificial respiration. Consult a doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

**Skin contact:** No data available.

**Eye contact:** No data available.

**Ingestion:** No data available.

**Inhalation:** No data available.

**Delayed / immediate effects:** No data available.

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

**Immediate / special treatment:** Eye bathing equipment should be available on the premises. IF exposed or if you feel unwell: Call a POISON CENTRE or DOCTOR. Immediate medical attention is required. The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Alcohol resistant foam. Water spray. Carbon dioxide. Dry chemical powder. Use water spray to cool containers.

### 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** Flammable. In combustion emits toxic fumes. In combustion emits toxic fumes of carbon dioxide / carbon monoxide. In combustion emits toxic fumes of nitrogen oxides. In combustion emits toxic fumes of phosphorus oxides.

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes. DO NOT fight fire when fire reaches explosives.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Refer to section 8 of SDS for personal protection details. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Eliminate all sources of ignition.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding. Prevent further leakage or spillage if safe to do so.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Do not use equipment in clean-up procedure which

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may produce sparks. Spilled product must never be returned to the original container for recycling.

### 6.4. Reference to other sections

**Reference to other sections:** Refer to section 8 of SDS. Refer to section 13 of SDS.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of mists in the air. Smoking is forbidden. Use non-sparking tools. Avoid inhalation of vapour or mist. Avoid contact with skin and eyes. Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in a cool, well ventilated area. Keep container tightly closed. Keep away from sources of ignition. Prevent the build up of electrostatic charge in the immediate area. Ensure lighting and electrical equipment are not a source of ignition.

**Suitable packaging:** Must only be kept in original packaging.

### 7.3. Specific end use(s)

**Specific end use(s):** Apart from uses mentioned in section 1.2 no other specific uses are stipulated.

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Hazardous ingredients:**

**ORTHOPHOSPHORIC ACID...100%**

**Workplace exposure limits:**

**Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	-	-

**ETHANOL**

UK	1920 mg/m <sup>3</sup>	-	-	-
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### DNEL/PNEC Values

**DNEL / PNEC** No data available.

### 8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area. Ensure lighting and electrical equipment are not a source of ignition. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Technical measures and the application of suitable work processes have priority over

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personal protection equipment. If handle uncovered, arrangements with local exhaust ventilation have to be used.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency. Where risk assessment shows air-purifying respirators are appropriate use a full face respirator with multi purpose combination (US) or type AXBEK (EN14387 respirator cartridges as a back up to engineering controls.

**Hand protection:** Protective gloves. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use.

Wash and dry hands. Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M) Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

**Eye protection:** Face shield and safety glasses. Use equipment for eye protection test and approved under appropriate government statements such as NIOSH (US) or EN 166(EU) Ensure eye bath is to hand.

**Skin protection:** Protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Environmental:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Liquid

**Colour:** No data available

**Evaporation rate:** No data available.

**Oxidising:** No data available.

**Solubility in water:** No data available.

**Viscosity:** No data available.

**Boiling point/range°C:** No data available.

**Flammability limits %: lower:** No data available.

**Flash point°C:** 30

**Autoflammability°C:** No data available.

**Relative density:** 1.35

**VOC g/l:** No data available.

**Melting point/range°C:** No data available.

**upper:** No data available.

**Part.coeff. n-octanol/water:** No data available.

**Vapour pressure:** No data available.

**pH:** No data available.

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## 9.2. Other information

Other information: No data available.

## Section 10: Stability and reactivity

### 10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

### 10.2. Chemical stability

Chemical stability: Stable under normal conditions. Stable at room temperature.

### 10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.  
Decomposition may occur on exposure to conditions or materials listed below.

### 10.4. Conditions to avoid

Conditions to avoid: Heat. Hot surfaces. Sources of ignition. Flames.

### 10.5. Incompatible materials

Materials to avoid: Strong bases. Finely powdered metals.

### 10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes. In the event of fire see section 5.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicity values:

Route	Species	Test	Value	Units
IVN	RAT	LD50	138	mg/kg
ORL	RAT	LD50	2193	mg/kg
SKN	RAT	LD50	>2	gm/kg

#### Hazardous ingredients:

##### ORTHOPHOSPHORIC ACID...100%

ORL	RAT	LD50	1530	mg/kg
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##### ETHANOL

IVN	RAT	LD50	1440	mg/kg
ORL	MUS	LD50	3450	mg/kg
ORL	RAT	LD50	7060	mg/kg

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## 2,4-DINITROPHENYLHYDRAZINE

ORAL	RAT	LD50	1650	mg/kg
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### Relevant hazards for product:

Hazard	Route	Basis
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated

### Symptoms / routes of exposure

**Skin contact:** No data available.

**Eye contact:** No data available.

**Ingestion:** No data available.

**Inhalation:** No data available.

**Delayed / immediate effects:** No data available.

## Section 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity values:** No data available.

### 12.2. Persistence and degradability

**Persistence and degradability:** No data available.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No data available.

### 12.4. Mobility in soil

**Mobility:** No data available.

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This product is not identified as a PBT/vPvB substance.

### 12.6. Other adverse effects

**Other adverse effects:** No data available.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** Transfer to a suitable container and arrange for collection by specialised disposal company. Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

**Disposal of packaging:** Dispose of as unused product.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

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## Section 14: Transport information

### 14.1. UN number

UN number: UN2920

### 14.2. UN proper shipping name

Shipping name: CORROSIVE LIQUID, FLAMMABLE, N.O.S.

### 14.3. Transport hazard class(es)

Transport class: 8 (3)

### 14.4. Packing group

Packing group: I

### 14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

### 14.6. Special precautions for user

Special precautions: No special precautions.

Tunnel code: D/E

Transport category: 1

## Section 15: Regulatory information

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

Specific regulations: Not applicable.

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## Section 16: Other information

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

\* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and s.3:** H225: Highly flammable liquid and vapour.

H226: Flammable liquid and vapour.

H228: Flammable solid.

H290: May be corrosive to metals.

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

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