



SAFETY DATA SHEET

Barium Peroxide
GPC7342

Date of Issue:
04-08-2025
Date of Revision:
01-08-2025

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758 and SI 2020/1577

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	Barium Peroxide
Synonyms	Barium superoxide
Chemical Name	Barium dioxide
Chemical Formula	BaO ₂
Product code	GPC7342
CAS No.	1304-29-6
EC No.	215-128-4
REACH Registration No.	Not known.

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

Identified Use(s)	Industrial/professional : PROC15 Use as laboratory reagent
Uses Advised Against	Not known.

1.3 Details of the supplier of the safety data sheet

Manufacturer	
Company Identification	Atom Scientific Ltd
Address of Manufacturer	Unit 2A East Tame Business Park Rexcine Way Hyde Cheshire
Postal code	SK14 4GX
Telephone:	0161 3665123
Fax	01704 337167
E-mail	technical@atomscientific.com
Office hours	08:00 - 17:00

Supplier	
Company Identification	Atom Scientific Ltd
Address of Supplier	Unit 2A East Tame Business Park Rexcine Way Hyde Cheshire
Postal code	SK14 4GX
Telephone:	0161 3665123
Fax	01704 337167
E-mail	technical@atomscientific.com
Office hours	08:00 - 17:00

1.4 Emergency telephone number

Emergency Phone No.	07833453806
Contact	Peter Keenan

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GB CLP Regulation, UK SI 2019/720 and UK Ox. Sol. 2 :May intensify fire; oxidiser.	
SI 2020/1567	Acute Tox. 4 :Harmful if swallowed. Acute Tox. 4 :Harmful if inhaled.

2.2 Label elements

Product Name	According to GB CLP Regulations, UK SI 2019/720 and UK SI 2020/1567 barium peroxide
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Hazard Pictogram(s)



GHS03



GHS07

Signal Word(s)

Danger

Hazard Statement(s)

H272: May intensify fire; oxidiser.



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H302: Harmful if swallowed.
H332: Harmful if inhaled.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220: Keep away from clothing and other combustible materials.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378: In case of fire: Use water spray, dry powder or carbon dioxide to extinguish.

2.3 Other hazards

None known.

2.4 Additional Information

For full text of H/P Statements see section 16.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / Registration number(s)	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
barium peroxide	1304-29-6	215-128-4	100	Ox. Sol. 2 H272 Acute Tox. 4 H302 Acute Tox. 4 H332	GHS03 GHS07

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation

Call a POISON CENTRE/doctor if you feel unwell.

Skin Contact

Treat symptomatically.

Eye Contact

Treat symptomatically.

Ingestion

Rinse mouth. Immediately call a POISON CENTRE/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Treat symptomatically.

4.3 Indication of any immediate medical attention and special treatment needed

Call a POISON CENTRE/doctor if you feel unwell. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media

Use water spray, dry powder or carbon dioxide to extinguish.

Unsuitable extinguishing media

None.

5.2 Special hazards arising from the substance or mixture

May intensify fire; oxidiser. May decompose in a fire giving off toxic fumes.

5.3 Advice for firefighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. If it is safe to do so, containers should be removed from fire area because they are likely to rupture under fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid dust generation. Do not breathe dust. Wear appropriate personal protective equipment, avoid direct contact.

6.2 Environmental precautions

Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Sweep up spilled substance and remove to safe place. Use vacuum equipment for collecting spilt materials, where practicable.



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6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature: Ambient.
Storage life: Stable under normal conditions.
Incompatible materials: None known.

7.3 Specific end use(s)

Industrial/professional : PROC15 Use as laboratory reagent

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Barium compounds, soluble (as Ba)	1304-29-6		0.5			

Region: United Kingdom
Source: UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)

Remark: Notes

8.2 Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction.

8.2.2. Personal protection equipment

Eye Protection

Wear eye protection with side protection (EN ISO 16321-1).



Skin protection

Wear protective clothing and gloves: Impervious gloves (EN 374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer.



Respiratory protection

A suitable dust mask or dust respirator with filter type P (EN143 or EN405) may be appropriate.



Thermal hazards

None known.



8.2.3. Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Solid.
Colour : Whitish/Greyish.
Odour: Odourless.



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Odour threshold	Not known.
pH	Not known.
Melting point/freezing point	450°C
Initial boiling point and boiling range	Not known.
Flash Point	Not applicable.
Evaporation rate	Not known.
Flammability (solid, gas)	Not known.
Upper/lower flammability or explosive limits	Not known.
Vapour pressure	Not known.
Vapour density	Not known.
Density (g/ml)	4.96g/cm ³
Relative density	Not known.
Solubility(ies)	Solubility (Water) : Slightly soluble. 0.091g /100g Water (20°C) Solubility (Other) : Not known.
Partition coefficient: n-octanol/water	Not known.
Auto-ignition temperature	Not known.
Decomposition Temperature (°C)	800°C
Viscosity	Not known.
Explosive properties	Not known.
Oxidising properties	Oxidising agent; may assist combustion.
9.2 Other information	None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	None anticipated.
10.2 Chemical Stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	May intensify fire; oxidiser. May react with combustible substances creating fire or explosion hazard.
10.4 Conditions to avoid	Keep away from combustible material.
10.5 Incompatible materials	Keep away from combustible material.
10.6 Hazardous decomposition products	No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity - Ingestion	Harmful if swallowed.
Acute toxicity - Skin Contact	Not classified.
Acute toxicity - Inhalation	Harmful if inhaled.
Skin corrosion/irritation	Not classified.
Serious eye damage/irritation	Not classified.
Skin sensitization data	Not classified.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Lactation	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.
11.2 Other information	Not known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	
Toxicity - Aquatic invertebrates	Low toxicity to invertebrates.
Toxicity - Fish	Low toxicity to fish.



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Toxicity - Algae	Low toxicity to algae.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.
12.2 Persistence and degradability	Not known.
12.3 Bioaccumulative potential	Not known.
12.4 Mobility in soil	Not known.
12.5 Results of PBT and vPvB assessment	Not known.
12.6 Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Dispose of contents in accordance with local, state or national legislation. Dispose of this material and its container to hazardous or special waste collection point. Normal disposal is via incineration operated by an accredited disposal contractor.
13.2 Additional Information	Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number	
UN No.	1449
14.2 UN proper shipping name	
UN proper shipping name	BARIUM PEROXIDE
14.3 Transport hazard class(es)	
ADR/RID	
ADR/RID Class	5.1
ADR Classification Code	OT2
Special Provisions	
Limited Quantities	1 kg
Excepted Quantities	E2
Emergency Action Code	1Y
Packing Instructions for Packages	P002 IBC06
Special Packing Provisions for Packages	
Mixed Packing Instructions for Packages	MP2
Instructions for Portable Tanks	T3
Special Provisions for Portable Tanks	TP33
Tank Code for Tanks	SGAN
Special Provisions for Tanks	TU3
Vehicle for Tank Carriage	AT
ADR Transport Category	2
Tunnel Restriction Code	E
Special Provisions for Carriage - Packages	V11
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, Unloading and Handling	CV24 CV28
Special Provisions for Carriage - Operation	
ADR HIN	56
IMDG	
IMDG Class	5.1 +6.1
Special Provisions	
Limited Quantities	1 kg
Excepted Quantities	E2
Mixed Packing Instructions for Packages	P002 IBC06
Special Packing Provisions for Packages	PP100 B21
Instructions for Portable Tanks	T3
Special Provisions for Portable Tanks	TP33
IMDG EMS	F-G, S-Q
Stowage and Handling	Category C H1
Segregation	SG16 SGG16 SG26 SG35 SG59



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Marine Pollutant

ICAO/IATA
ICAO/IATA Class 5.1 +6.1
Excepted Quantities E2
Passenger and Cargo Aircraft Limited Y543
Quantities Packing Instructions
Passenger and Cargo Aircraft Limited 1Kg
Quantities Max net Qty
Passenger and Cargo Aircraft Packing 558
Instructions
Passenger and Cargo Aircraft Max net Qty 5Kg
Cargo Aircraft Packing Instructions 562
Cargo Aircraft Max net Qty 25Kg
Special Provisions
Emergency Response Guidebook (ERG) 5P
Code
Labels
Labels 5.1 +6.1



14.4 Packing group

Packing group II

14.5 Environmental hazards

Environmental hazards Not classified as a Marine Pollutant.

14.6 Special precautions for user

Special precautions for user Not known.

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

No information available

SECTION 15: REGULATORY INFORMATION

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

United Kingdom Regulations - Authorisations and/or Restrictions On Use

UK REACH Candidate List of Substances of Not listed

Very High Concern for Authorisation

UK REACH Authorisation List (Annex XIV) Not listed

list of substances subject to authorisation

UK REACH Restrictions List (Annex XVII) barium peroxide (1304-29-6), barium peroxide (1304-29-6)

Restrictions on the manufacture, placing on

the market and use of certain dangerous

substances, mixtures and articles

UK REACH Rolling Action Plan (RAP) Not listed

Persistent Organic Pollutants (Various Not listed

Amendments) Regulations 2019 (SI

2019/1099)

The Ozone-Depleting Substances and Not listed

Fluorinated Greenhouse Gases (Amendment

etc.) (EU Exit) Regulations 2019 (SI

2019/583)

The Prior Informed Consent (PIC) Not listed

Regulations concerning the export and

import of hazardous chemicals SI2008/2108

as amended

European Regulations - Authorisations and/or Restrictions On Use

Community Rolling Action Plan (CoRAP) Not listed

Seveso Directive

Code P8: Lower Tier Quantity 50 - Upper Tier Quantity 200

15.2 Chemical Safety Assessment

United Kingdom

A REACH chemical safety assessment has not been carried out.



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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

LEGEND

Hazard Pictogram(s)



GHS03



GHS07

Hazard classification

Ox. Sol. 2 : Oxidising solid, Category 2
Acute Tox. 4 : Acute toxicity, Category 4
Acute Tox. 4 : Acute toxicity, Category 4

Hazard Statement(s)

H272: May intensify fire; oxidiser.
H302: Harmful if swallowed.
H332: Harmful if inhaled.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220: Keep away from clothing and other combustible materials.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands and exposed skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312: IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTRE/doctor if you feel unwell.
P330: Rinse mouth.
P370+P378: In case of fire: Use water spray, dry powder or carbon dioxide to extinguish.
P501: Dispose of contents in accordance with local, state or national legislation.

Acronyms

ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE : Acute Toxicity Estimate
CAS : Chemical Abstracts Service
DNEL : Derived No Effect Level
EC : European Community
EINECS : European Inventory of Existing Commercial Chemical Substances
IATA : International Air Transport Association
IBC : Intermediate Bulk Container
ICAO : International Civil Aviation Organization
IMDG : International Maritime Dangerous Goods
LTEL : Long term exposure limit
PBT : Persistent, Bioaccumulative and Toxic
PNEC : Predicted No Effect Concentration
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals
RID : Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL : Short term exposure limit
STOT : Specific Target Organ Toxicity
UN : United Nations
vPvB : very Persistent and very Bioaccumulative

Key literature references and sources for data used to compile the SDS
Training Advice

GB CLP Regulation, UK SI 2019/720 and UK SI 2020/1567
Regular safety training as appropriate



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