

Section 1. Identification

1.1 Product Identifier	0112
Product Name	BROMINE pure
CAS Number	7726-95-6
REACH Registration No	01-2119461714-37-XXXX
Molecular Formula	$\text{Br}_2 = 159.8$

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

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier



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Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Acute toxicity, category 1 (inhalation)	H330: Fatal if inhaled.
Skin corrosion/irritation, category 1A	H314: Causes severe skin burns and eye damage.
Hazard to aquatic environment, category 1	H400: Very toxic to aquatic life.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Fatal if inhaled. Causes severe skin burns and eye damage. Very toxic to aquatic life.

Precautionary Statements Wear protective gloves / protective clothing / eye protection / face protection. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. Store in a well ventilated place. Keep container tightly closed.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Bromine	7726-95-6	231-778-1	01-2119461714-37-XXXX	>99%	Acute Tox. 1 (I),Skin Corr. 1A,Aquatic Acute 1

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water until MEDICAL ATTENTION has been obtained.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. OBTAIN MEDICAL ATTENTION URGENTLY.
Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. OBTAIN MEDICAL ATTENTION URGENTLY.
Ingestion	Wash out the patients mouth thoroughly with water. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

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

No further relevant information available.

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

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Consider what other flammable materials are present and act accordingly. Use water spray to keep fire exposed containers cool.
Unsuitable Media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards	May evolve toxic fumes if involved in a fire.
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5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection	Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.
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6.2 Environmental precautions

Environmental	Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.
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6.3 Methods and material for containment and cleaning up

Major Spillage	Contain and absorb on inert material. Neutralise with lime water or sodium thiosulphate. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.
Minor Spillage	Contain and absorb on inert material. Neutralise with lime water or sodium thiosulphate. Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage .

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)	Short Term 15min period		
Bromine	7726-95-6	>99%	0.1 ppm	0.7 mg/m-3	0.2 ppm	1.3 mg/m-3

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.
Hand Protection	Use solvent resistant gloves.
Eye Protection	Use tightly fitting chemical splash proof glasses or goggles.
Skin Protection	Wear PVC oversuit.
Special Hazards	No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Red-brown liquid.
Odour	Pungent and intensely irritating.
pH	Not applicable
Boiling Point	58.8°C
Melting Point	-7.3°C
Flash Point	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Auto Ignition	Not applicable
Explosive Properties	No.
Oxidising Properties	A strong oxidising agent.
Vapour Pressure	175mmHg @ 20°C
Relative Density	3.1200
Water Solubility	3.5%

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	Do not allow to impregnate wood or other organic materials.
10.5	Incompatible Materials	Reacts vigorously with phenols, amines, hydrocarbons, organic acids and ketones. Dry bromine reacts violently with many metals, notably aluminium, titanium, mercury, potassium and with phosphorous. A strong oxidiser notably in the presence of water.
10.6	Hazardous Decomposition Products	May decompose to emit toxic and irritant fumes of hydrogen bromide.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Both the vapour and liquid will, be extremely irritating to eyes and can cause chemical eye burns. Lachrymation occurs at a vapour concentration of less than 1 ppm.
Skin	The liquid and solutions will cause severe burns. May be absorbed through the skin.
LD50 Skin	Not available
Ingestion	Ingestion will cause severe internal irritation and damage, nausea, vomiting, abdominal pains and diarrhoea.
LD50 Oral	1700mg/kg Rat
Inhalation	Fatal if inhaled. Exposure to vapour concentrations above the occupational exposure limits will produce severe irritation of the eyes, nose, throat and respiratory tract. A vapour concentration of 10ppm will cause respiratory damage.
LD50 Inhalation	Not available
TCLo	1000ppm
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	No information is available.
Other Information	0.3ppm causes irritation to the eyes. 0.5-1.0ppm can be quickly detected by smell. 10ppm is intolerable and causes acute distress and pain in the upper respiratory tract. NO irritant effect is present at harmful concentrations of the vapour.

Section 12. Ecological

12.1	Toxicity	Very toxic to aquatic organisms.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not available
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 & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Never dispose of into water courses or sewerage systems. Neutralise with lime water or sodium hydroxide prior to disposal.
Contaminated Packaging	Wash out containers with water.

Section 14. Transport Information

14.1 UN Number	1744
14.2 Proper Shipping Name	Bromine
14.3 Transport classes	
UN classification	8
Subsidiary hazard(s)	6.1
Transport category	1
ADR Hazard ID	886
Tunnel Restriction Code	C/D
14.4 Packing Group	I
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Acute toxicity, category 1 (inhalation); Skin corrosion/irritation, category 1A; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H330, H314, H400
Fatal if inhaled. Causes severe skin burns and eye damage. Very toxic to aquatic life.

Hazard Statements (Packs of 500ml/g or less) H330, H314, H400
Fatal if inhaled. Causes severe skin burns and eye damage. Very toxic to aquatic life.

Precautionary Statements P280, P304+P340, P301+P330+P331, P303+P361+P353, P305+P351+P338, P403+P233
Wear protective gloves / protective clothing / eye protection / face protection. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. Store in a well ventilated place. Keep container tightly closed.

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15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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