

Infosafe No™ 3CHCZ Issue Date : November 2021 RE-ISSUED by ACR

Product Name **BROMINE WATER**

Classified as hazardous

1. Identification

GHS Product Identifier BROMINE WATER
Product Code 0428
Company Name AUSTRALIAN CHEMICAL REAGENTS (ACR) (ABN 19 008 264 211)
Address 38 - 50 Bedford Street Gillman
 S.A. 5013 Australia
Telephone/Fax Number Tel: (08) 8440 2000
 Fax: (08) 8440 2001
Emergency phone number CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)
Recommended use of the chemical and restrictions on use Laboratory reagent.
Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
 Business hours: 8:30am to 5:00pm, Monday to Friday.

Australian Chemical Reagents (ACR) does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Australian Chemical Reagents (ACR) with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Australian Chemical Reagents (ACR) is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture Acute Toxicity - Inhalation: Category 3
 Eye Damage/Irritation: Category 2A
 Skin Corrosion/Irritation: Category 2
Signal Word (s) DANGER
Hazard Statement (s) H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H331 Toxic if inhaled.
Pictogram (s) Skull and crossbones, Exclamation mark



Precautionary statement – Prevention P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash contaminated skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362 Take off contaminated clothing and wash before reuse.
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P311 Call a POISON CENTER or doctor/physician.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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| Precautionary statement – Storage | P337+P313 If eye irritation persists: Get medical advice/attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. |
| Precautionary statement – Disposal | P501 Dispose of contents/container to an approved waste disposal plant. |

3. Composition/information on ingredients

| Ingredients | Name | CAS | Proportion |
|--------------------------|--|-----------|------------|
| | Bromine | 7726-95-6 | 1-5 % |
| | Water to make a total of 7732-18-5 | | |
| | 100% | | |
| Other Information | Bromine water contains approximately 3.2 g bromine in 100 g water. | | |

4. First-aid measures

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| Inhalation | If inhaled, remove from contaminated area to fresh air immediately. If breathing is difficult, give oxygen. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required. |
| Ingestion | Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek medical advice if symptoms persist. |
| Skin | Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity. Wash affected areas with copious quantities of water. Remove contaminated clothing and wash before re-use. Seek immediate medical attention. |
| Eye contact | Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice. |
| First Aid Facilities | Maintain eyewash fountain and safety shower in work area. |
| Advice to Doctor | Treat symptomatically based on judgement of doctor and individual reactions of the patient. |
| Other Information | For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once. |

5. Fire-fighting measures

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| Hazards from Combustion Products | Liberates toxic fumes in fire including hydrogen bromide gas. |
| Specific Methods | Small fire: Use dry chemical, CO2 or water spray. If safe to do so, move undamaged containers from fire area. Large fire: Use dry chemical, CO2, foam or water spray - Do not use water jets. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers. |
| Specific hazards arising from the chemical | Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. |
| Hazchem Code | 2XE |
| Precautions in connection with Fire | Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials. |

6. Accidental release measures

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| Personal Precautions | Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing. Wear respiratory protection. |
| Personal Protection | Wear protective clothing specified for normal operations (see Section 8) |

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Clean-up Methods - Small Spillages Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.

Environmental Precautions Avoid release to the environment.

7. Handling and storage

Precautions for Safe Handling Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid prolonged or repeated contact with skin and clothing. Contaminated clothing should be removed and washed before reuse.

Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. Store at room temperature (15 - 25 °C). May develop pressure. Open carefully. Do not use polyethylene.

Corrosiveness Attacks most metals, including platinum and palladium. Reacts vigorously with aluminium and explosively with potassium.

Storage Regulations Refer Australian Standard AS 3780 - 1994 'The storage and handling of corrosive substances'.

Other Information Vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks).

8. Exposure controls/personal protection

| Occupational exposure limit values | Name | STEL | | TWA | | Footnote |
|---|---|-------|-----|-------|-----|----------|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| | Bromine | 2 | 0.3 | 0.66 | 0.1 | |
| Other Exposure Information | <p>These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.</p> <p>A time weighted average (TWA) has been established for Bromine (Safe Work Australia) of 0.66 mg/m3, (0.1 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. A Short term exposure limit (STEL) has been established for Bromine (Safe Work Australia) of 2 mg/m3, (0.3 ppm). The exposure value at the STEL is the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.</p> | | | | | |
| Appropriate engineering controls | Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required. | | | | | |
| Respiratory Protection | Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels. | | | | | |
| Eye Protection | The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336. | | | | | |
| Hand Protection | Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste. | | | | | |

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| Personal Protective Equipment | Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards. |
| Footwear | Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use. |
| Body Protection | Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals. |
| Hygiene Measures | Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. |

9. Physical and chemical properties

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| Appearance | Light brown liquid. |
| Odour | Pungent, suffocating odour. |
| Flammability | Non combustible material. Vigorously supports combustion. |

10. Stability and reactivity

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| Conditions to Avoid | Sensitive to heating. Incompatibles. |
| Incompatible Materials | Bromine is incompatible with the following. Combustible material, strong oxidizing agents, alcohols, aldehydes, aluminium, amides, amines, ammonia, arsenites, azides, carbides, ketones, organic nitro compounds, organic substances/reducing agents, ethers, phenols, fluorine, phosphides, alkali hydroxides, alkali oxides, halogen oxides, halogen-halogen compounds, hydrides, lithium silicide, metals, non-metals, ozone, metallic salts, ferrous salts, mercurous salts, hypophosphites, phosphorus and potassium. |
| Hazardous Decomposition Products | Liberates toxic fumes in fire including hydrogen bromide gas. |
| Possibility of hazardous reactions | Bromine reacts violently with many organic compounds, many metals and phosphorus. Reacts vigorously with aluminium and explosively with potassium. |

11. Toxicological Information

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| Acute Toxicity - Oral | Bromine LD50 (rat): 2600 mg/kg. |
| Ingestion | May cause sore throat, vomiting, diarrhea and abdominal spasm. Burns of mucous membranes. |
| Inhalation | Toxic if inhaled. May cause sore throat, irritation, coughing, shortness of breath, laboured breathing, dizziness, headache, lacrimation, epistaxis, feeling of oppression, pneumonia and lung edema. |
| Skin | Causes skin irritation. May cause redness, pain, irritation, necrosis, poorly healing wounds and measles-like eruptions. |
| Eye | Causes serious eye irritation. May cause redness, irritation, pain and blurred vision. |
| Respiratory sensitisation | Not classified based on available information. |
| Skin Sensitisation | Not classified based on available information. |
| Germ cell mutagenicity | Not classified based on available information. |
| Carcinogenicity | Not classified based on available information. |
| Reproductive Toxicity | Not classified based on available information. |
| STOT-single exposure | Not classified based on available information. |

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STOT-repeated exposure Not classified based on available information.

12. Ecological information

Ecotoxicity May cause long-term adverse effects in the aquatic environment.

Persistence and degradability Not readily degradable.

13. Disposal considerations

Disposal Considerations Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:
Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity.

U.N. Number 1744

UN proper shipping name BROMINE or BROMINE SOLUTION

Transport hazard class(es) 8

Sub.Risk 6.1

Hazchem Code 2XE

Packing Group I

EPG Number 8C5

IERG Number 37

15. Regulatory information

Regulatory Information All the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Poisons Schedule S7

16. Other Information

Literature References 'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia.
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'.
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals'.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand.
Safe Work Australia, 'Hazardous Chemical Information System'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.

Contact Person/Point Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**
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