

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/29/2017

Reviewed on 11/29/2017

## 1 Identification

- **Product identifier**
- **Trade name:** Bromine Index Standard  
170 mgm Br.
- **Article number:** LY029
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 1B H350 May cause cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Dichloromethane (Methylene Chloride)
- **Hazard statements**  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

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*May cause cancer.*

*May cause respiratory irritation. May cause drowsiness or dizziness.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Obtain special instructions before use.*

*Do not handle until all safety precautions have been read and understood.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wash 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.*

*If swallowed: Call a poison center/doctor if you feel unwell.*

*If on skin: Wash with plenty of water.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*IF exposed or concerned: Get medical advice/attention.*

*Get medical advice/attention if you feel unwell.*

*Specific treatment (see on this label).*

*Rinse mouth.*

*If skin irritation occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*Take off contaminated clothing and wash it before reuse.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*2

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 75-09-2	Dichloromethane (Methylene Chloride)	99.854%
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## · Table of Nonhazardous Ingredients

CAS: 872-05-9 | 1-Decene

0.147%

## 4 First-aid measures

### · Description of first aid measures

#### · General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

#### · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Immediately call a doctor.

#### · Information for doctor:

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

#### · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

## 5 Fire-fighting measures

### · Extinguishing media

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture** No further relevant information available.

### · Advice for firefighters

· **Protective equipment:** No special measures required.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.

### · Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### · Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### · Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### · Protective Action Criteria for Chemicals

#### · PAC-1:

CAS: 75-09-2 | Dichloromethane (Methylene Chloride)

200 ppm

#### · PAC-2:

CAS: 75-09-2 | Dichloromethane (Methylene Chloride)

560 ppm

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· **PAC-3:**

CAS: 75-09-2	Dichloromethane (Methylene Chloride)
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6,900 ppm
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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**CAS: 75-09-2 Dichloromethane (Methylene Chloride)**

PEL	Short-term value: 125 ppm Long-term value: 25 ppm see 29 CFR 1910.1052
REL	See Pocket Guide App. A
TLV	Long-term value: 174 mg/m <sup>3</sup> , 50 ppm BEI

· **Ingredients with biological limit values:**

**CAS: 75-09-2 Dichloromethane (Methylene Chloride)**

BEI	0.3 mg/L LD50 Intraperitoneal: urine Time: end of shift LD50: Dichloromethane (semi-quantitative)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 605 °C (1,121 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	13 Vol %
Upper:	22 Vol %

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· <b>Vapor pressure at 20 °C (68 °F):</b>	453 hPa (339.8 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1.32914 g/cm <sup>3</sup> (11.09167 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b>	20 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	99.9 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gl
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**ATE (Acute Toxicity Estimate)**

Oral	LD50	1,602 mg/kg (rat)
Dermal	LD50	>2,003 mg/kg (rat)

**CAS: 75-09-2 Dichloromethane (Methylene Chloride)**

Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	52,000 mg/l (rat)
Irritation of skin	Skin Corrosion/Irritation	(rabbit) (Draize)
Irritation of eyes	Eye damage/eye irritation	(rabbit)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.

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- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
 The product shows the following dangers according to internally approved calculation methods for preparations:  
 Harmful  
 Irritant
- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>	
CAS: 75-09-2	Dichloromethane (Methylene Chloride)
	2A

· <b>NTP (National Toxicology Program)</b>	
CAS: 75-09-2	Dichloromethane (Methylene Chloride)
	R

· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
CAS: 75-09-2	Dichloromethane (Methylene Chloride)

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
 Water hazard class 2 (Self-assessment): hazardous for water  
 Do not allow product to reach ground water, water course or sewage system.  
 Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |                          |        |
|--------------------------|--------|
| · <b>UN-Number</b>       | UN1593 |
| · <b>DOT, IMDG, IATA</b> |        |

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· **UN proper shipping name**  
 · **DOT** *Dichloromethane solution*  
 · **IMDG, IATA** *DICHLOROMETHANE solution*

· **Transport hazard class(es)**  
 · **DOT**



· **Class** *6.1 Toxic substances*  
 · **Label** *6.1*

· **IMDG, IATA**



· **Class** *6.1 Toxic substances*  
 · **Label** *6.1*

· **Packing group**  
 · **DOT, IMDG, IATA** *III*

· **Environmental hazards:**  
 · **Marine pollutant:** *No*

· **Special precautions for user** *Warning: Toxic substances*  
 · **Danger code (Kemler):** *61*  
 · **EMS Number:** *F-A,S-A*  
 · **Segregation groups** *Liquid halogenated hydrocarbons*  
 · **Stowage Category** *A*

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*

· **UN "Model Regulation":** *UN 1593 DICHLOROMETHANE SOLUTION, 6.1, III*

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 · **Sara**

· **Section 355 (extremely hazardous substances):**

*None of the ingredients is listed.*

· **Section 313 (Specific toxic chemical listings):**

CAS: 75-09-2 | *Dichloromethane (Methylene Chloride)*

· **TSCA (Toxic Substances Control Act):**

*Dichloromethane (Methylene Chloride)*

*1-Decene*

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· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 75-09-2	Dichloromethane (Methylene Chloride)
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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.	
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· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.	
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· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.	
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 75-09-2	Dichloromethane (Methylene Chloride)	L
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· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 75-09-2	Dichloromethane (Methylene Chloride)	A3
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

CAS: 75-09-2	Dichloromethane (Methylene Chloride)
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· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*Dichloromethane (Methylene Chloride)*

· **Hazard statements**

*Harmful if swallowed.*

*Causes skin irritation.*

*Causes serious eye irritation.*

*May cause cancer.*

*May cause respiratory irritation. May cause drowsiness or dizziness.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Obtain special instructions before use.*

*Do not handle until all safety precautions have been read and understood.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wash 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.*

*If swallowed: Call a poison center/doctor if you feel unwell.*

*If on skin: Wash with plenty of water.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*IF exposed or concerned: Get medical advice/attention.*

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*Get medical advice/attention if you feel unwell.*

*Specific treatment (see on this label).*

*Rinse mouth.*

*If skin irritation occurs: Get medical advice/attention.*

*If eye irritation persists: Get medical advice/attention.*

*Take off contaminated clothing and wash it before reuse.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials:**

*Carcinogenic hazardous material group III (dangerous).*

· **Information about limitation of use:**

*Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.*

*Exceptions can be made by the authorities in certain cases.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Environment protection department.

· **Contact:**

· **Date of preparation / last revision**

*Creation date for SDS 01-18-2015. STN*

*11-29-2017: review SDS for accuracy. STN*

*11/29/2017 / -*

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*BEI: Biological Exposure Limit*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*

*Carc. 1B: Carcinogenicity – Category 1B*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*