

CAS-No.: MSDS

## MATERIAL SAFETY DATA SHEET (MSDS)

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

#### 1.1. Product identifier

Product form : Mixture  
:  
Product code : 2259B

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : For professional use only  
Industrial

##### 1.2.2. Uses advised against

No additional information available

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

Labogens Fine Chem Industries  
1st Floor , Above Bank of India, Guru Vihar , Rahon Road,  
Ludhiana Pb. (141007)  
+91 9316777775, +91 7707855700  
[sales@labogens.com](mailto:sales@labogens.com) - [www.Labogens.com](http://www.Labogens.com)

#### 1.4. Emergency telephone number

Emergency number : +91 7707855700 (9:00am - 6:00 pm)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity H330  
(inhalation:dust,mist)  
Category 1  
Skin corrosion/irritation, H314  
Category 1  
Hazardous to the aquatic H400  
environment — Acute  
Hazard, Category 1

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS06

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P284 - Wear respiratory protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a POISON CENTER/doctor

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name       | Product identifier                                                       | %          | Classification according to Regulation (EC) No. 1272/2008 [CLP]                    |
|------------|--------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|
| WATER AR   | (CAS-No.) 7732-18-5<br>(EC-No.) 231-791-2                                | 92.5 - 95  | Not classified                                                                     |
| BROMINE AR | (CAS-No.) 7726-95-6<br>(EC-No.) 231-778-1<br>(EC Index-No.) 035-001-00-5 | 6.8 - 7.05 | Acute Tox. 2 (Inhalation),<br>H330<br>Skin Corr. 1A, H314<br>Aquatic Acute 1, H400 |

Full text of H-statements: see section 16

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- |                                       |                                                                                                                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.                    |
| First-aid measures after skin contact | : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.                                                                            |
| First-aid measures after eye contact  | : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion    | : Rinse mouth. If you feel unwell, seek medical advice.                                                                                                                          |

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

- |                                   |                                            |
|-----------------------------------|--------------------------------------------|
| Symptoms/effects                  | : Causes severe skin burns and eye damage. |
| Symptoms/effects after inhalation | : Fatal if inhaled.                        |

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- |                                |                                                                                   |
|--------------------------------|-----------------------------------------------------------------------------------|
| Suitable extinguishing media   | : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO <sub>2</sub> ). |
| Unsuitable extinguishing media | : Do not use a heavy water stream.                                                |

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

No additional information available

#### 5.3. Advice for firefighters

- |                                |                                                                        |
|--------------------------------|------------------------------------------------------------------------|
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. |
|--------------------------------|------------------------------------------------------------------------|

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- |                      |                                   |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

##### 6.1.2. For emergency responders

- |                      |                                                  |
|----------------------|--------------------------------------------------|
| Protective equipment | : Use personal protective equipment as required. |
| Emergency procedures | : Stop release.                                  |

#### 6.2. Environmental precautions

Very toxic to aquatic life.

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

- |                         |                                        |
|-------------------------|----------------------------------------|
| Methods for cleaning up | : Clear up rapidly by scoop or vacuum. |
|-------------------------|----------------------------------------|

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- |                               |                                                                                                                         |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Precautions for safe handling | : Do not get in eyes, on skin, or on clothing.                                                                          |
| Hygiene measures              | : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. |

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

- |                    |                                                                                                          |
|--------------------|----------------------------------------------------------------------------------------------------------|
| Storage conditions | : Direct sunlight. Store in a well-ventilated place. Store in original container. Protect from moisture. |
|--------------------|----------------------------------------------------------------------------------------------------------|

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### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

|                          |                                      |
|--------------------------|--------------------------------------|
| Hand protection          | : protective gloves                  |
| Eye protection           | : Chemical goggles or safety glasses |
| Skin and body protection | : Wear suitable protective clothing  |
| Respiratory protection   | : Wear appropriate mask              |

## SECTION 9: Physical and chemical properties

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

|                                            |                           |
|--------------------------------------------|---------------------------|
| Physical state                             | : Liquid                  |
| Colour                                     | : Reddish brown solution. |
| Odour                                      | : No data available       |
| Odour threshold                            | : No data available       |
| pH                                         | : No data available       |
| Relative evaporation rate (butylacetate=1) | : No data available       |
| Melting point                              | : No data available       |
| Freezing point                             | : No data available       |
| Boiling point                              | : No data available       |
| Flash point                                | : No data available       |
| Auto-ignition temperature                  | : No data available       |
| Decomposition temperature                  | : No data available       |
| Flammability (solid, gas)                  | : No data available       |
| Vapour pressure                            | : No data available       |
| Relative vapour density at 20 °C           | : No data available       |
| Relative density                           | : No data available       |
| Solubility                                 | : No data available       |
| Log Pow                                    | : No data available       |
| Viscosity, kinematic                       | : No data available       |
| Viscosity, dynamic                         | : No data available       |

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|                      |                     |
|----------------------|---------------------|
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits     | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Direct sunlight.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Inhalation:dust,mist: Fatal if inhaled.

|                     |               |
|---------------------|---------------|
| ATE CLP (dust,mist) | 0.005 mg/l/4h |
|---------------------|---------------|

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

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## Safety Data Sheet

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

No additional information available

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

|               |        |
|---------------|--------|
| UN-No. (ADR)  | : 1744 |
| UN-No. (IMDG) | : 1744 |
| UN-No. (IATA) | : 1744 |
| UN-No. (ADN)  | : 1744 |
| UN-No. (RID)  | : 1744 |

#### 14.2. UN proper shipping name

|                                       |                                                                                    |
|---------------------------------------|------------------------------------------------------------------------------------|
| Proper Shipping Name (ADR)            | : BROMINE SOLUTION                                                                 |
| Proper Shipping Name (IMDG)           | : BROMINE SOLUTION                                                                 |
| Proper Shipping Name (IATA)           | : Bromine solution                                                                 |
| Proper Shipping Name (ADN)            | : BROMINE SOLUTION                                                                 |
| Proper Shipping Name (RID)            | : BROMINE SOLUTION                                                                 |
| Transport document description (ADR)  | : UN 1744 BROMINE SOLUTION, 8 (6.1), I, (C/D), ENVIRONMENTALLY HAZARDOUS           |
| Transport document description (IMDG) | : UN 1744 BROMINE SOLUTION, 8 (6.1), I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IATA) | : UN 1744 Bromine solution, 8, ENVIRONMENTALLY HAZARDOUS                           |
| Transport document description (ADN)  | : UN 1744 BROMINE SOLUTION, 8 (6.1), I, ENVIRONMENTALLY HAZARDOUS                  |
| Transport document description (RID)  | : UN 1744 BROMINE SOLUTION, 8 (6.1), I, ENVIRONMENTALLY HAZARDOUS                  |

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### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 8 (6.1)

Danger labels (ADR) : 8, 6.1



#### IMDG

Transport hazard class(es) (IMDG) : 8 (6.1)

Danger labels (IMDG) : 8, 6.1



#### IATA

Transport hazard class(es) (IATA) : 8 (6.1)



#### ADN

Transport hazard class(es) (ADN) : 8 (6.1)

Danger labels (ADN) : 8, 6.1



#### RID

Transport hazard class(es) (RID) : 8 (6.1)

Danger labels (RID) : 8, 6.1



### 14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : Not applicable

Packing group (ADN) : I

Packing group (RID) : I

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### 14.5. Environmental hazards

|                               |                                          |
|-------------------------------|------------------------------------------|
| Dangerous for the environment | : Yes                                    |
| Marine pollutant              | : Yes                                    |
| Other information             | : No supplementary information available |

### 14.6. Special precautions for user

#### - Overland transport

|                                                                         |                                        |
|-------------------------------------------------------------------------|----------------------------------------|
| Classification code (ADR)                                               | : CT1                                  |
| Limited quantities (ADR)                                                | : 0                                    |
| Excepted quantities (ADR)                                               | : E0                                   |
| Packing instructions (ADR)                                              | : P804                                 |
| Mixed packing provisions (ADR)                                          | : MP2                                  |
| Portable tank and bulk container instructions (ADR)                     | : T22                                  |
| Portable tank and bulk container special provisions (ADR)               | : TP2, TP10                            |
| Tank code (ADR)                                                         | : L21DH(+)                             |
| Tank special provisions (ADR)                                           | : TU14, TU33, TC5, TE21, TT2, TM3, TM5 |
| Vehicle for tank carriage                                               | : AT                                   |
| Transport category (ADR)                                                | : 1                                    |
| Special provisions for carriage - Loading, unloading and handling (ADR) | : CV13, CV28                           |
| Special provisions for carriage - Operation (ADR)                       | : S14                                  |
| Hazard identification number (Kemler No.)                               | : 886                                  |
| Orange plates                                                           | :                                      |



|                               |       |
|-------------------------------|-------|
| Tunnel restriction code (ADR) | : C/D |
| EAC code                      | : 2XE |
| APP code                      | : B   |

#### - Transport by sea

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packing instructions (IMDG)        | : P804                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Tank instructions (IMDG)           | : T22                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Tank special provisions (IMDG)     | : TP2, TP10, TP13                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| EmS-No. (Fire)                     | : F-A                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EmS-No. (Spillage)                 | : S-B                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Stowage category (IMDG)            | : D                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Stowage and handling (IMDG)        | : SW1, SW2, H2                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Segregation (IMDG)                 | : SG6, SG16, SG17, SG19                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Properties and observations (IMDG) | : Very dark brown, heavy liquid with an extremely irritating odour. Density: 3.1 (pure product). Boiling point: 59°C . Powerful oxidant; may cause fire in contact with organic materials such as wood, cotton or straw. Highly corrosive to most metals. Solutions have the same properties to a lesser degree, depending on concentration. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes. |

#### - Air transport

|                                              |             |
|----------------------------------------------|-------------|
| PCA Limited quantities (IATA)                | : Forbidden |
| PCA limited quantity max net quantity (IATA) | : Forbidden |
| PCA packing instructions (IATA)              | : Forbidden |
| PCA max net quantity (IATA)                  | : Forbidden |



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|                                 |             |
|---------------------------------|-------------|
| CAO packing instructions (IATA) | : Forbidden |
| CAO max net quantity (IATA)     | : Forbidden |
| Special provisions (IATA)       | : A2        |
| ERG code (IATA)                 | : 8P        |

### - Inland waterway transport

|                                   |                  |
|-----------------------------------|------------------|
| Classification code (ADN)         | : CT1            |
| Special provisions (ADN)          | : 802            |
| Limited quantities (ADN)          | : 0              |
| Excepted quantities (ADN)         | : E0             |
| Equipment required (ADN)          | : PP, EP, TOX, A |
| Ventilation (ADN)                 | : VE02           |
| Number of blue cones/lights (ADN) | : 2              |

### - Rail transport

|                                                                         |                                                          |
|-------------------------------------------------------------------------|----------------------------------------------------------|
| Classification code (RID)                                               | : CT1                                                    |
| Limited quantities (RID)                                                | : 0                                                      |
| Excepted quantities (RID)                                               | : E0                                                     |
| Packing instructions (RID)                                              | : P804                                                   |
| Mixed packing provisions (RID)                                          | : MP2                                                    |
| Portable tank and bulk container instructions (RID)                     | : T22                                                    |
| Portable tank and bulk container special provisions (RID)               | : TP2, TP10                                              |
| Tank codes for RID tanks (RID)                                          | : L21DH(+)                                               |
| Special provisions for RID tanks (RID)                                  | : TU14, TU33, TU38, TC5, TE21, TE22, TE25, TT2, TM3, TM5 |
| Transport category (RID)                                                | : 1                                                      |
| Special provisions for carriage - Loading, unloading and handling (RID) | : CW13, CW28                                             |
| Hazard identification number (RID)                                      | : 886                                                    |

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 3, severe hazard to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

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### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
SZW-lijst van mutagene stoffen : None of the components are listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

### Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

## 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of H- and EUH-statements:

|                                        |                                                                 |
|----------------------------------------|-----------------------------------------------------------------|
| Acute Tox. 1<br>(Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 1                |
| Acute Tox. 2 (Inhalation)              | Acute toxicity (inhal.), Category 2                             |
| Aquatic Acute 1                        | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Skin Corr. 1                           | Skin corrosion/irritation, Category 1                           |
| Skin Corr. 1A                          | Skin corrosion/irritation, Category 1A                          |
| H314                                   | Causes severe skin burns and eye damage.                        |
| H330                                   | Fatal if inhaled.                                               |
| H400                                   | Very toxic to aquatic life.                                     |

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*