**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

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

**Product Identifier**

**Perihalan Produk:** **Ethidium bromide de-staining bag activation solution**
**Product Description:** **Ethidium bromide de-staining bag activation solution**
**Cat No. :** J61101

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

**Recommended Use** Laboratory chemicals.
**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company** Fisher Scientific (M) Sdn Bhd No. 3, Jalan Sepadu 25/123,
Taman Perindustrian Axis, Seksyen 25,
40400 Shah Alam, Selangor Darul Ehsan, Malaysia.
**Supplier** .
**E-mail address** uktech@alfa.com
www.alfa.com
Product Safety Department

**Emergency Telephone Number**

Carechem 24: +60 3 6207 4347 (emergency number 24 h)

## SECTION 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

| | |
|---|---|
| Serious Eye Damage/Eye Irritation | Category 2 (H319) |

**Label Elements**

**Signal Word** **Warning**

**Hazard Statements**

H319 - Causes serious eye irritation

**Precautionary Statements**

P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear eye protection/ face 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
P337 + P313 - If eye irritation persists: Get medical advice/attention

**Other Hazards**

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|---|---|---|
| Water | 7732-18-5 | 81.9 |
| Isopropyl alcohol | 67-63-0 | 18.0 |
| Sodium lauryl sulfate | 151-21-3 | 0.1 |

## SECTION 4: FIRST AID MEASURES

**Description of first aid measures**

**General Advice** If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Self-Protection of the First Aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Most important symptoms and effects, both acute and delayed**

None reasonably foreseeable.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**

Sulfur oxides, Sodium oxides.

**Advice for fire-fighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**
Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental precautions**
Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods and Material for Containment and Cleaning Up**
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

**Reference to Other Sections**
Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling**
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

**Conditions for Safe Storage, Including any Incompatibilities**
Keep container tightly closed in a dry and well-ventilated place.

**Specific End Uses**
Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters**

| Component | Malaysia | ACGIH TLV | OSHA PEL |
|---|---|---|---|
| Isopropyl alcohol | | TWA: 200 ppm<br>STEL: 400 ppm | (Vacated) TWA: 400 ppm<br>(Vacated) TWA: 980 mg/m³<br>(Vacated) STEL: 500 ppm<br>(Vacated) STEL: 1225 mg/m³<br>TWA: 400 ppm<br>TWA: 980 mg/m³ |

| Component | European Union | The United Kingdom | Germany |
|---|---|---|---|
| Isopropyl alcohol | | STEL: 500 ppm 15 min<br>STEL: 1250 mg/m³ 15 min<br>TWA: 400 ppm 8 hr<br>TWA: 999 mg/m³ 8 hr | TWA: 200 ppm (8 Stunden). AGW - exposure factor 2<br>TWA: 500 mg/m³ (8 Stunden). AGW - exposure factor 2<br>TWA: 200 ppm (8 Stunden). MAK<br>TWA: 500 mg/m³ (8 Stunden). MAK<br>Höhepunkt: 400 ppm<br>Höhepunkt: 1000 mg/m³ |

**Exposure Controls**

**Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

| | |
|---|---|
| **Eye Protection** | Goggles |
| **Hand Protection** | Protective gloves |
| **Skin and body protection** | Long sleeved clothing |

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

| | |
|---|---|
| **Respiratory Protection** | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators |
| **Recommended Filter type:** | Particulates filter conforming to EN 143<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly<br>When RPE is used a face piece Fit Test should be conducted |

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice

**Environmental exposure controls** No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | |
|---|---|---|
| **Appearance** | | |
| **Physical State** | Liquid | |
| **Odor** | No information available | |
| **Odor Threshold** | No data available | |
| **pH** | No information available | |
| **Melting Point/Range** | No data available | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | No information available | |
| **Flash Point** | No information available | **Method -** No information available |
| **Evaporation Rate** | No data available | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | **Lower** 2.0 Vol %<br>**Upper** 12.0 Vol % | |
| **Vapor Pressure** | No data available | |
| **Vapor Density** | No data available | (Air = 1.0) |

| | | |
|---|---|---|
| **Specific Gravity / Density** | No data available | |
| **Bulk Density** | Not applicable | Liquid |
| **Water Solubility** | Miscible | |
| **Solubility in other solvents** | No information available | |

**Partition Coefficient (n-octanol/water)**

| **Component** | **log Pow** |
|---|---|
| Isopropyl alcohol | 0.05 |
| Sodium lauryl sulfate | 1.6 |

| | |
|---|---|
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | No data available |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | No information available |

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity**

None known, based on information available.

**Chemical Stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

| | |
|---|---|
| **Hazardous Polymerization** | No information available. |
| **Hazardous Reactions** | None under normal processing. |

**Conditions to Avoid**

None known.

**Incompatible Materials**

Oxidizing agent.

**Hazardous Decomposition Products**

Sulfur oxides. Sodium oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Information on Toxicological Effects**

**Acute Toxicity**

**Toxicology data for the components**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Water | - | - | - |
| Isopropyl alcohol | 5045 mg/kg ( Rat )<br>3600 mg/kg ( Mouse ) | 12800 mg/kg ( Rat ) | 72.6 mg/L ( Rat ) 4 h |
| Sodium lauryl sulfate | LD50 = 1288 mg/kg ( Rat ) | LD50 = 200 mg/kg ( Rabbit ) | LC50 > 3900 mg/m³ ( Rat ) 1 h |

**Chronic Toxicity**

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available
**Mutagenic Effects** No information available
**Reproductive Effects** No information available
**Developmental Effects** No information available
**Target Organs** No information available.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects** .

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---|---|---|---|---|
| Isopropyl alcohol | LC50: = 9640 mg/L, 96h flow-through (Pimephales promelas)<br>LC50: > 1400000 µg/L, 96h (Lepomis macrochirus)<br>LC50: = 11130 mg/L, 96h static (Pimephales promelas)<br>LC50: = 10000000 µg/L, 96h (Daphnia) | 13299 mg/L EC50 = 48 h<br>9714 mg/L EC50 = 24 h | EC50: > 1000 mg/L, 72h (Desmodesmus subspicatus)<br>EC50: > 1000 mg/L, 96h (Desmodesmus subspicatus) | = 35390 mg/L EC50 Photobacterium phosphoreum 5 min |
| Sodium lauryl sulfate | 1.31 mg/L LC50 96 h<br>9.9-20.1 mg/L LC50 96 h<br>4.5 mg/L LC50 96 h<br>4.62 mg/L LC50 96 h<br>7.97 mg/L LC50 96 h<br>10.2-22.5 mg/L LC50 96 h<br>10.8-16.6 mg/L LC50 96 h<br>13.5-18.3 mg/L LC50 96 h<br>15-18.9 mg/L LC50 96 h<br>22.1-22.8 mg/L LC50 96 h<br>4.06-5.75 mg/L LC50 96 h<br>4.2-4.8 mg/L LC50 96 h<br>4.3-8.5 mg/L LC50 96 h<br>5.8-7.5 mg/L LC50 96 h<br>6.2-9.6 mg/L LC50 96 h<br>8-12.5 mg/L LC50 96 h<br>4.2 mg/L LC50 96 h | EC50: = 1.8 mg/L, 48h (Daphnia magna) | EC50: 3.59 - 15.6 mg/L, 96h static (Pseudokirchneriella subcapitata)<br>EC50: = 117 mg/L, 96h (Pseudokirchneriella subcapitata)<br>EC50: 30 - 100 mg/L, 96h (Desmodesmus subspicatus)<br>EC50: = 53 mg/L, 72h (Desmodesmus subspicatus) | = 0.46 mg/L EC50 Photobacterium phosphoreum 30 min<br>= 0.72 mg/L EC50 Photobacterium phosphoreum 15 min<br>= 1.19 mg/L EC50 Photobacterium phosphoreum 5 min |

**Persistence and degradability**

**Persistence** Miscible with water, Persistence is unlikely, based on information available.

**Bioaccumulative potential** Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| Isopropyl alcohol | 0.05 | No data available |
| Sodium lauryl sulfate | 1.6 | No data available |

**Mobility in soil** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from Residues/Unused Products** Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

**Road and Rail Transport** Not regulated

**IATA** Not regulated

**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

| Component | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL |
|---|---|---|---|---|---|---|---|---|---|
| Water | 231-791-2 | X | X | X | X | | X | X | KE-35400 |
| Isopropyl alcohol | 200-661-7 | X | X | X | X | X | X | X | KE-29363 |
| Sodium lauryl sulfate | 205-788-1 | X | X | X | X | X | X | X | KE-21884 |

| Component | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Isopropyl alcohol | | | | Annex I - Y42 |

**National Regulations**

**Persistent Organic Pollutant** This product does not contain any known or suspected substance
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

**Legend**

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**IECSC** - Chinese Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**ENCS** - Japanese Existing and New Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit
**ACGIH** - American Conference of Governmental Industrial Hygienists
**RPE** - Respiratory Protective Equipment
**LC50** - Lethal Concentration 50%
**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average
**IARC** - International Agency for Research on Cancer
**LD50** - Lethal Dose 50%
**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**OECD** - Organisation for Economic Co-operation and Development
**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**ATE** - Acute Toxicity Estimate
VOC (volatile organic compound)

**Key literature references and sources for data**
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Prepared By** Health, Safety and Environmental Department
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**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

### Disclaimer

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## End of Safety Data Sheet