CHIP CLEANING KIT-RA (P/N 292-35925-91) includes Cleaning Solution-RA.

Safety Data Sheet

Section 1: Identification of the substance or mixture and of the supplier

Product name: Cleaning Solution-RA
Name of supplier: Shimadzu Corporation
Address: 1 Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan
Section in charge: Clinical & Biotechnology Business Unit, Life Science Business Department
Telephone: +81-75-823-1351
FAX: +81-75-823-1364
Use of the product: This product is for analytical research use only. Not applicable for clinical and/or diagnostic purposes.

Section 2: Hazards Identification

GHS classification:
- Flammable liquid
- Serious eye damage/eye irritation
- Germ cell mutagenicity
- Reproductive toxicity
- Specific target organ toxicity (single exposure)
- Specific target organ toxicity (Repeated exposure)

Category 2
- Category 2B
- Category 1B
- Category 1A
- Category 3
- Respiratory tract irritation
- Anesthetic action
- Liver

Symbol:

Signal word: Danger

Hazard statements:
- Highly flammable liquid and vapour.
- Causes eye irritation.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- May cause genetic defects.
- May damage fertility or the unborn child.
- May cause damage to organs through prolonged or repeated exposure.

Prevention:
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
- No smoking.
- Keep container tightly closed.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use non-sparking tools.
- Take action to prevent static discharges.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wash hands 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.

Response:
- IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water or shower.
- 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.
Section 3: Composition/information of ingredients

<table>
<thead>
<tr>
<th>Substance/ mixture:</th>
<th>Mixture</th>
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</thead>
<tbody>
<tr>
<td>General description:</td>
<td>Ethanol solution</td>
</tr>
<tr>
<td>Substances:</td>
<td>Ethanol: CAS No. 64-17-5 64.7 wt% (70 vol%)</td>
</tr>
</tbody>
</table>

Section 4: First-aid measures

| Inhalation: | Remove to uncontaminated area and supply fresh air. Promptly consult doctor, if needed. |
| Skin contact: | Take off contaminated clothing and wash skin with plenty of water. |
| Eye contact: | Flush eyes with plenty of water for at least 15 minutes, and obtain medical attention. |
| Ingestion: | Drink plenty of water to induce vomiting, and obtain medical attention. |

Section 5: Fire-fighting measures

| Extinguishing media: | Use water mist, powder, carbon dioxide, dry sand. |
| Specific hazards arising from fire-fighting: | Gases will form upon combustion of carbon monoxide, nitrogen oxides, boric oxides. |
| Special fire-fighting measures: | In case of fire in the surrounding area, promptly move the container to a safe place. |

Section 6: Accidental release measures

| Personal precautions: | Wear appropriate protective equipment |
| Environmental precautions: | Absorb as much of the material as possible with paper towel or sand. |

Section 7: Handling and storage

| Handling: | Wear personal protective equipment in order to prevent inhalation and the product from conducting eyes or skin. |
| Storage: | Keep tightly closed in dark cool place. |

Section 8: Exposure controls/personal protection

| Exposure limits: | No occupational exposure limit values and/or biological limit values are established. |
| Permitted concentration: | Japan Society for Occupational Health: Not established ACGIH(TWA/STEL): 1000ppm (Ethanol) |
| Equipment measures: | Eyewash equipments |
| Respiratory protection: | Not required |
| Hand protection: | Wear impervious glove. |
| Eye protection: | Wear tightly sealed goggles. |
| Skin and body protection: | Wear white coat. |

Section 9: Physical and chemical properties

| Appearance (Physical state, color, etc.): | Colorless, transparent liquid |
| Odor | Characteristic odor |
| pH: | 8.9 at 25°C |

IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. If eye irritation persists: Get medical advice/attention. In case of fire: Use fire extinguisher to extinguish.
Melting/ Freezing point: No data available
Boiling point/ boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Vapor pressure: No data available
Density/ relative density: No data available
Water solubility: Miscible
Auto ignition: 363 °C (Ethanol)
Decomposition temperature: No data available
Viscosity: No data available

Section 10: Stability and reactivity
Reactivity: No risk of hazardous reaction.
Stability: Stable at normal temperature and pressure.
Conditions/Materials to avoid: Oxidizing substances
Hazardous decomposition products: No information available

Section 11: Toxicological information
No data available for the mixture.
Additional toxicological information on the components of this product
Ethanol: Acute toxicity
Inhalation: LC50=63,000 ppmV
Oral: LD50=6,200 mg/kg
Dermal: LDL0=20,000 mg/kg
Skin corrosion/irritation: No data available.
Serious eye damage/eye irritation: The substance irritates the human eye.
Germ cell mutagenicity:
Dominant fataly in the rat and the mouse, and heteroploidy induction in the mouse productive cells.
Reproductive toxicity:
Causes adverse effects on reproductive ability or the unborn child.
Specific target organ toxicity (single exposure):
Causes irritation to Respiratory organ.
Specific target organ toxicity (repeated exposure):
Causes damage to organs (Liver) through prolonged or repeated exposure.

Section 12: Ecological information
No data available for the mixture.
Additional toxicological information on the components of this product
Ethanol: Ecotoxicity: Hazardous to the aquatic environment(acute hazard)
Fishes (Pimephales promelas) LC50/96H > 100mg/L
Crustacea (Ceriodaphnia) LC50/96H = 5012mg/L
Algae (Chlorella) EC50/96H = 1000mg/L
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Biotransportability: No data available

Section 13: Disposal considerations
Residual waste: Dispose of contents/ container according to all federal, state and local environmental regulations.
Contaminated container: After removing the contents, dispose of contents/ container according to all federal, state and local environmental regulations.

Section 14: Transport information
US DOT, IMDG (sea), ADR/RID (land), ICAO/IATA (air): UN-1170, Class3, Packing group: II
Prior to transport, make sure no leakage is observed from the bottle and stow a cargo without dropping and turning over.

Section 15: Regulatory information
The composition/ information of ingredients is disclosed according to GHS. Comply with all countries, national and local regulation.

Section 16: Other information
References
3) Ministry of Economy, Trade and Industry: GHS Mixture Classification System ver. 2.0

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