1 Identification of the substance/mixture and of the company/undertaking

- Product identifier
  - Trade name: MRH/HRH Internal Standard Solution (Kansas)
  - Part number: SKS-130
- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.
- Application of the substance / the mixture
  - Laboratory chemicals
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    - ULTRA Scientific, inc.
    - 250 Smith Street
    - North Kingstown, RI 02852
    - USA
- Further information obtainable from:
  - Telephone: (401) 294-9400
  - Fax: (401) 295-2300
  - E-mail: regulatory@ultrasci.com
  - Emergency telephone number:
    - US: (800) 424-9300
    - Outside US: (703) 527-3887

2 Hazards identification

- Classification of the substance or mixture
  - Classification according to Regulation (EC) No 1272/2008
    - GHS08 health hazard
      - Carc. 2  H351  Suspected of causing cancer.
- GHS07
  - Acute Tox. 4  H302  Harmful if swallowed.

- Label elements
  - Labelling according to Regulation (EC) No 1272/2008
    - The product is classified and labelled according to the CLP regulation.
- Hazard pictograms
  - GHS07  GHS08

- Signal word Warning
  - Hazard-determining components of labelling:
    - dichloromethane
  - Hazard statements
    - H302 Harmful if swallowed.
    - H351 Suspected of causing cancer.

(Contd. on page 2)
Trade name: MRH/HRH Internal Standard Solution (Kansas)

- **Precautionary statements**
  - P101 If medical advice is needed, have product container or label at hand.
  - P102 Keep out of reach of children.
  - P103 Read label before use.
  - P280 Wear protective gloves/protective clothing/eye protection/face protection.
  - P264 Wash thoroughly after handling.
  - P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  - P308+P313 IF exposed or concerned: Get medical advice/attention.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterisation:** Mixtures
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**
  - CAS: 75-09-2
  - EINECS: 200-838-9
dichloromethane
  - Carc. 2, H351
  - 99.623%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 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:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Call for a doctor immediately.

- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **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: 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.
- 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.

7 Handling and storage

- Handling:
  No special precautions are necessary if used correctly.
- Information about fire and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
- Ingredients with limit values that require monitoring at the workplace:
  75-09-2 dichloromethane

<table>
<thead>
<tr>
<th>WEL</th>
<th>Short-term value: 1060 mg/m³, 300 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGV, Sk</td>
<td>Long-term value: 350 mg/m³, 100 ppm</td>
</tr>
</tbody>
</table>

- Ingredients with biological limit values:
  75-09-2 dichloromethane

<table>
<thead>
<tr>
<th>BMGV</th>
<th>30 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: end-tidal breath</td>
<td></td>
</tr>
<tr>
<td>Sampling time: post shift</td>
<td></td>
</tr>
<tr>
<td>Parameter: carbon monoxide</td>
<td></td>
</tr>
</tbody>
</table>

- Additional information: The lists valid during the making were used as basis.

- Exposure controls
- Personal protective equipment:
  General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.
  Wash hands before breaks and at the end of work.
- Respiratory protection: Not required.
Protection of hands:
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 of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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: Goggles recommended during refilling

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Fluid
  - Colour: Colourless
- Odour: Like chlorine
- Odour threshold: Not determined.
- pH-value: Not determined.

- Change in condition
  - Melting point/freezing point: -95.1 °C
  - Initial boiling point and boiling range: 40 °C

- Flash point: Not applicable.
- Flammability (solid, gas): Not applicable.
- Ignition temperature: 605 °C
- Decomposition temperature: Not determined.
- Auto-ignition temperature: Product is not selfigniting.
- Explosive properties: Product does not present an explosion hazard.

- Explosion limits:
  - Lower: 13 Vol %
  - Upper: 22 Vol %

- Vapour pressure at 20 °C: 360 hPa

- Density at 20 °C: 1.3 g/cm³
- Relative density: Not determined.
- Vapour density: Not determined.
- Evaporation rate: Not determined.

- Solubility in / Miscibility with water at 20 °C: 20 g/l

- Partition coefficient: n-octanol/water: Not determined.
Trade name: MRH/HRH Internal Standard Solution (Kansas)

- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.

- **Solvent content:**
  - Organic solvents: 99.6 %
  - VOC (EC): 99.62 %
  - Solids content: 0.4 %

- **Other information:**
  - 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**
  - Harmful if swallowed.

- **LD/LC50 values relevant for classification:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>1606 mg/kg (rat)</td>
</tr>
<tr>
<td>75-09-2 dichloromethane</td>
<td></td>
</tr>
<tr>
<td>Oral LD50</td>
<td>1600 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>&gt;2000 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
<td>88 mg/L (rat)</td>
</tr>
</tbody>
</table>

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
  - Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 (German Regulation) (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 together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**
  - HP 7 Carcinogenic

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
  - ADR, IMDG, IATA UN1593
- **UN proper shipping name**
  - ADR 1593 DICHLOROMETHANE
  - IMDG, IATA DICHLOROMETHANE
- **Transport hazard class(es)**
  - ADR, IMDG, IATA
    - **Class**
      - 6.1 Toxic substances.
    - **Label**
      - 6.1
- **Packing group**
  - ADR, IMDG, IATA III
- **Environmental hazards:**
  - Not applicable.
### 44.2.6 Special precautions for user

- Warning: Toxic substances.

### 45.2.6.1 Danger code (Kemler):

60

### 45.2.6.1.1 EMS Number:

F-A,S-A

### 45.2.6.1.2 Segregation groups

Liquid halogenated hydrocarbons

### 45.2.6.1.3 Stowage Category

A

### 45.2.6.1.4 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

### 45.2.6.1.5 Transport/Additional information:

- **ADR**
  - **Limited quantities (LQ)**: 5L
  - **Excepted quantities (EQ)**: Code: E1
    
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

- **Transport category**
  - 2

- **Tunnel restriction code**
  - E

- **IMDG**
  - **Limited quantities (LQ)**: 5L
  - **Excepted quantities (EQ)**: Code: E1
    
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

- **UN "Model Regulation":**
  - UN 1593 DICHLOROMETHANE, 6.1, III

### 15 Regulatory information

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

  - **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
  - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 59
  - **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.

- **Relevant phrases**
  - H351 Suspected of causing cancer.

- **Department issuing SDS:** Document Control / Regulatory

- **Contact:** regulatory@ultrasci.com

- **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
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - 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)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
Trade name: MRH/HRH Internal Standard Solution (Kansas)

LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Carc. 2: Carcinogenicity – Category 2