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

- **Product identifier**
- **Trade name:** Custom Standard
- **Part number:** CUS-5933
- **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
- **Information department:**
  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 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS08 Health hazard
  - Carc. 1B  H350  May cause cancer.
  - GHS07
  - Acute Tox. 4  H302  Harmful if swallowed.

- **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
  - diethylnitrosoamine

- **Hazard statements**
  - Harmful if swallowed.
  - May cause cancer.

- **Precautionary statements**
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.

(Contd. on page 2)
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
Rinse mouth.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 1
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - HEALTH Health = *1
    - FIRE Fire = 0
    - REACTIVITY 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:
  - 75-09-2 dichloromethane 99.246%
  - 924-16-3 N-nitrosodibutylamine 0.151%
  - 55-18-5 diethylnitrosoamine 0.151%
  - 930-55-2 1-nitrosopyrrolidine 0.151%
  - 608-93-5 pentachlorobenzene 0.151%
  - 95-95-4 2,4,5-trichlorophenol 0.151%

### 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: Immediately call a doctor.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed 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: No special measures required.
- 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

<table>
<thead>
<tr>
<th>PAC-1:</th>
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<tbody>
<tr>
<td>75-09-2</td>
<td>dichloromethane</td>
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<tr>
<td>608-93-5</td>
<td>pentachlorobenzene</td>
</tr>
<tr>
<td>95-95-4</td>
<td>2,4,5-trichlorophenol</td>
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<table>
<thead>
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<th>PAC-2:</th>
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<tr>
<td>608-93-5</td>
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<tr>
<td>95-95-4</td>
<td>2,4,5-trichlorophenol</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3:</th>
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<tbody>
<tr>
<td>75-09-2</td>
<td>dichloromethane</td>
</tr>
<tr>
<td>608-93-5</td>
<td>pentachlorobenzene</td>
</tr>
<tr>
<td>95-95-4</td>
<td>2,4,5-trichlorophenol</td>
</tr>
</tbody>
</table>

7 Handling and storage

- Handling:
  - Precautions for safe handling
    - Ensure good ventilation/exhaustion at the workplace.
    - Open and handle receptacle with care.
  - Information about protection against explosions and fires: Keep respiratory protective device available.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
44.2.6 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:
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

75-09-2 dichloromethane
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/m³, 50 ppm
BEI

Ingredients with biological limit values:

75-09-2 dichloromethane

BEI 0.3 mg/L
Medium: urine
Time: end of shift
Parameter: Dichloromethane (semi-quantitative)

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.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

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.

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

(Contd. on page 5)
44.2.6 · 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](image)

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:
  · Form: Fluid
  · Color: According to product specification
· Odor:
  · Odor threshold: Not determined.
· pH-value: Not determined.

· Change in condition
  · Melting point/Melting range: -95.1 °C (-139 °F)
  · Boiling point/Boiling range: Undetermined.
· Flash point: Not applicable.
· Flammability (solid, gaseous): Not applicable.
· Ignition temperature: 605 °C (1121 °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 %
· Vapor pressure at 20 °C (68 °F): 360 hPa (270 mm Hg)
· Density at 20 °C (68 °F): 1.3 g/cm³ (10.849 lbs/gal)
· Relative density: Not determined.
· Vapor density: Not determined.
· Evaporation rate: Not determined.

· Solubility in / Miscibility with
  · Water at 20 °C (68 °F): 20 g/l
· Partition coefficient (n-octanol/water): Not determined.
Trade name: Custom Standard

44.2.6

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

- Solvent content:
  - Organic solvents: 99.2 %
  - VOC content: 0 g/l / 0 lb/gl

- 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:

  - LD/LC50 values that are relevant for classification:

    ATE (Acute Toxicity Estimates)
    
    |     | Oral LD50 | Dermal LD50 | Inhalative LC50/4 h |
    |-----|-----------|-------------|---------------------|
    | dichloromethane | 1598 mg/kg (rat) | 2015 mg/kg (rat) | 88.7 mg/L (rat) |
    | N-nitrosodibutylamine | 1600 mg/kg (rat) | >2000 mg/kg (rat) | 88 mg/L (rat) |
    | diethylnitrosoamine | 1200 mg/kg (rat) | 220 mg/kg (rat) | |
    | 1-nitrosopyrrolidine | 900 mg/kg (rat) |  | |
    | pentachlorobenzene | 1080 mg/kg (rat) | >2500 mg/kg (rat) | |
    | 2,4,5-trichlorophenol | 820 mg/kg (rat) |  | |

- Primary irritant effect:
  - on the skin: No irritant effect.
on the eye: No 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

Carcinogenic categories

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2 dichloromethane</td>
<td>2B</td>
</tr>
<tr>
<td>924-16-3 N-nitrosodibutylamine</td>
<td>2B</td>
</tr>
<tr>
<td>55-18-5 diethylnitrosoamine</td>
<td>2A</td>
</tr>
<tr>
<td>930-55-2 1-nitrosopyrrolidine</td>
<td>2B</td>
</tr>
<tr>
<td>608-93-5 pentachlorobenzene</td>
<td>2B</td>
</tr>
<tr>
<td>95-95-4 2,4,5-trichlorophenol</td>
<td>2B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>75-09-2 dichloromethane</td>
<td>R</td>
</tr>
<tr>
<td>924-16-3 N-nitrosodibutylamine</td>
<td>R</td>
</tr>
<tr>
<td>55-18-5 diethylnitrosoamine</td>
<td>R</td>
</tr>
<tr>
<td>930-55-2 1-nitrosopyrrolidine</td>
<td>R</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety &amp; Health Administration)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>75-09-2 dichloromethane</td>
<td></td>
</tr>
</tbody>
</table>

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: Not known to be hazardous to water.
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.
### 14 Transport information

<table>
<thead>
<tr>
<th>· UN-Number</th>
<th>UN1593</th>
</tr>
</thead>
<tbody>
<tr>
<td>· DOT, IMDG, IATA</td>
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</tr>
<tr>
<td>· UN proper shipping name</td>
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<tr>
<td>· DOT</td>
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<tr>
<td>· Transport hazard class(es)</td>
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</tr>
<tr>
<td>· DOT</td>
<td>6.1 Toxic substances</td>
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<tr>
<td>· Label</td>
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<td>· IMDG, IATA</td>
<td>6.1 Toxic substances</td>
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<td>· Label</td>
<td>6.1</td>
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<td>· Packing group</td>
<td>III</td>
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<td>· DOT, IMDG, IATA</td>
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</tr>
<tr>
<td>· Environmental hazards:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Special precautions for user</td>
<td>Warning: Toxic substances</td>
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<tr>
<td>· Danger code (Kemler):</td>
<td>60</td>
</tr>
<tr>
<td>· EMS Number:</td>
<td>F-A,S-A</td>
</tr>
<tr>
<td>· Segregation groups</td>
<td>Liquid halogenated hydrocarbons</td>
</tr>
<tr>
<td>· Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Transport/Additional information:</td>
<td></td>
</tr>
<tr>
<td>· DOT</td>
<td></td>
</tr>
<tr>
<td>· Quantity limitations</td>
<td>On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L</td>
</tr>
<tr>
<td>· Hazardous substance:</td>
<td>1000 lbs, 454 kg</td>
</tr>
<tr>
<td>· IMDG</td>
<td></td>
</tr>
<tr>
<td>· Limited quantities (LQ)</td>
<td>5L</td>
</tr>
<tr>
<td>· Excepted quantities (EQ)</td>
<td>Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
<td>UN 1593 DICHLOROMETHANE, 6.1, III</td>
</tr>
</tbody>
</table>

(Contd. on page 9)
# 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):**
    | Chemical | CAS Number |
    |----------|------------|
    | dichloromethane | 75-09-2 |
    | N-nitrosodibutylamine | 924-16-3 |
    | diethyl nitrosoamine | 55-18-5 |
    | pentachlorobenzene | 608-93-5 |
    | 2,4,5-trichlorophenol | 95-95-4 |
  - **TSCA (Toxic Substances Control Act):**
    - All ingredients are listed.
  - **Proposition 65**
    - **Chemicals known to cause cancer:**
      | Chemical | CAS Number |
      |----------|------------|
      | dichloromethane | 75-09-2 |
      | N-nitrosodibutylamine | 924-16-3 |
      | diethyl nitrosoamine | 55-18-5 |
      | 1-nitrosopyrrolidine | 930-55-2 |
    - **Chemicals known to cause reproductive toxicity for females:**
      - None of the ingredients is listed.
    - **Chemicals known to cause reproductive toxicity for males:**
      - None of the ingredients is listed.
    - **Chemicals known to cause developmental toxicity:**
      - None of the ingredients is listed.
  - **Carcinogenic categories**
    | Agency | Chemical | CAS Number | Category |
    |--------|----------|------------|----------|
    | EPA | dichloromethane | 75-09-2 | L |
    | | N-nitrosodibutylamine | 924-16-3 | B2 |
    | | diethyl nitrosoamine | 55-18-5 | B2 |
    | | 1-nitrosopyrrolidine | 930-55-2 | B2 |
    | | pentachlorobenzene | 608-93-5 | D |
    | TLV | dichloromethane | 75-09-2 | A3 |
    | NIOSH-Ca | National Institute for Occupational Safety and Health | dichloromethane | 75-09-2 |
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS07
    - GHS08
Trade name: Custom Standard

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - dichloromethane
  - diethylnitrosoamine

- **Hazard statements**
  - Harmful if swallowed.
  - May cause cancer.

- **Precautionary statements**
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  - IF exposed or concerned: Get medical advice/attention.
  - Rinse mouth.
  - 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:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of preparation / last revision** 05/02/2017 / -
- **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

(Contd. on page 11)
Trade name: Custom Standard

Acute Tox. 4: Acute toxicity – Category 4
Carc. 1B: Carcinogenicity – Category 1B