1. Identification of the substances/ mixture and of the company/ undertaking

1.1 Product Identifiers
Product Code RM9697
Product Name 2-Methyl-1,3-butadiene

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Produced by HiMedia Laboratories Pvt. Ltd.
Address 23, Vadhani Indl.Estate, LBS Marg, Mumbai 400 086, India.
Tel. No. +91-22-2500 0970, +91-22-2500 1607
Fax No. +91-22-2500 2468

1.4 Emergency Tel. No.
Emergency Tel.No. Please contact the regional HiMedia representation in your country

2. Hazards Identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
- Flammable liquids (Category 1)
- Germ cell mutagenicity (Category 2)
- Carcinogenicity (Category 1A, 1B)
- Hazardous to the aquatic environment, long-term hazard (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
- May cause cancer.
- Extremely flammable.
- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Possible risk of irreversible effects.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word Danger

Hazard Statement(s)
- H224 Extremely flammable liquid and vapour
- H341 Suspected of causing genetic defects
- H350 May cause cancer
- H412 Harmful to aquatic life with long lasting effects

Precautionary Statement(s)
- P201 Obtain special instructions before use.
- P210 Keep away from heat/sparks/open flames/hot surfaces. # No smoking.
- P273 Avoid release to the environment.
- P281 Use personal protective equipment as required.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.

Symbol(s) 

R-Phrase(s) 
R45 May cause cancer. 
R12 Extremely flammable. 
R32/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 
R68 Possible risk of irreversible effects. 

S-Phrase(s) 
S53 Avoid exposure - obtain special instructions before use. 
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets. 

2.3 Other hazards - none 

3. Composition/Information on Ingredients 
3.1 Substances 
Synonym: Isoprene 

Molecular Formula: \( \text{C}_5\text{H}_8 \) 
Molecular Weight: 68.12 

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Methyl-1,3-butadiene</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>78-79-5</td>
</tr>
<tr>
<td>EC-No.</td>
<td>201-143-3</td>
</tr>
<tr>
<td>Index-No.</td>
<td>601-014-00-5</td>
</tr>
</tbody>
</table>

4. First Aid Measures 
4.1 Description of first aid measures 

**General advice** 
Consult a physician. Show this safety data sheet to the doctor in attendance. 

**If inhaled** 
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. 

**In case of skin contact** 
Wash off with soap and plenty of water. Consult a physician. 

**In case of eye contact** 
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. 

**If swallowed** 
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 

4.2 Most important symptoms and effects, both acute and delayed 
No data available 

4.3 Indication of immediate medical attention and special treatment needed 
No data available 

5. Fire Fighting Measures 
5.1 Extinguishing media 

**Suitable extinguishing media** 
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. 

5.2 Special hazards arising from the substance or mixture 
Carbon oxides
5.3 **Precautions for fire-fighters**
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 **Further information**
No data available

6 **Accidental Release Measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 **Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 **Methods and materials for containment and cleaning up**
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 **Reference to other sections**
For disposal see Section 13.

7 **Handling and Storage**

7.1 **Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

7.3 **Conditions for safe storage, including any incompatibilities**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended Storage Temperature: Store at 2 - 8°C

7.3 **Specific end uses**
No data available

8 **Exposure Controls/Personal Protection**

8.1 **Control parameters**
Components with workplace control parameters

8.2 **Exposure controls**
**Appropriate engineering controls**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**Personal protective equipment**
**Hygiene measure**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands face after working with the substance

**Eye/face protection**
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (Without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body protection**
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific work place.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK(EN 14387) respirator cartridges as a backup to the engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Environment exposure controls
Do not empty into drains

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colourless to pale yellow liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
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</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
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</tr>
<tr>
<td>Vapour pressure</td>
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</tr>
<tr>
<td>Vapour density</td>
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</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Water Solubility</td>
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<tr>
<td>Partition coefficient: n-octanol/Water</td>
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</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other safety information

No data available

10 Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available

11 Toxicological Information

11.1 Information on toxicological effects

- **Acute toxicity**
  No data available

- **Skin corrosion/irritation**
  No data available

- **Serious eye damage/eye irritation**
  No data available

- **Respiratory or skin sensitisation**
  No data available

- **Germ cell mutagenicity**
  No data available

- **Carcinogenicity**
  IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

- **Reproductive toxicity**
  No data available

- **Specific target organ toxicity- single exposure**
  No data available
Aspiration hazard
No data available

Potential Health Effects
Inhalation.
Refer Section 2
Skin
Refer Section 2
Eyes
Refer Section 2
Ingestion
Refer Section 2

Additional Information
RTECS : Not Available

12 Ecological Information
12.1 Toxicity
No data available
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 PBT and vPvB assessment
No data available
12.6 Other adverse effects
No data available

13 Disposal Considerations
13.1 Waste treatments methods
Product
Offer surplus and non-recyclable solutions to a licenced disposal company. Contact a licenced professional waste disposal service to dispose of this material.

13.2 Contaminated packaging
Dispose of as unused product.

14 Transport Information
14.1 UN-No.
ADR/RID: 1218 IMDG: 1218 IATA: 1218

14.2 UN proper shipping name
ADR/RID : 2-Methyl-1,3-butadiene
IMDG : 2-Methyl-1,3-butadiene
IATA : 2-Methyl-1,3-butadiene

14.3 Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group
ADR/RID: 1 IMDG: 1 IATA: 1

14.5 Environmental hazards
ADR/RID: No IMDG: Marine Pollutant:No IATA: No

14.6 Special precautions for use
No data available

15 Regulatory Information
15.1 Safety health and environment regulations/legislation specific for the substance or mixture
No data available

15.2 Chemical Safety Assessment
No data available

16 Other Information
Further information
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