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

1.1 Product Identifiers
Product Code  GRM474
Product Name  Ammonium dichromate, Hi-AR™

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]
- Oxidising liquids; Oxidising solids (Category 2)
- Oxidising liquids; Oxidising solids (Category 3)
- Acute toxicity, oral (Category 3)
- Acute toxicity, dermal (Category 4)
- Skin corrosion/irritation (Category 1A, B, C)
- Sensitisation, Skin (Category 1)
- Acute toxicity, inhalation (Category 1, 2)
- Sensitisation, respiratory (Category 1)
- Germ cell mutagenicity (Category 1A, 1B)
- Carcinogenicity (Category 1A, 1B)
- Specific target organ toxicity, repeated exposure (Category 1)
- Hazardous to the aquatic environment, long-term hazard (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
- May cause cancer.
- May cause heritable genetic damage.
- May impair fertility.
- May cause harm to the unborn child.
- Risk of explosion by shock, friction, fire or other sources of ignition.
- Contact with combustible material may cause fire.
- Harmful in contact with skin.
- Toxic if swallowed.
- Very toxic by inhalation.
- Causes bums.
- May cause sensitization by inhalation and skin contact.
- Toxic: danger of serious damage to health by prolonged exposure
- Very toxic to aquatic organisms, may cause long-term adverse. Effects in the aquatic environment.

2.2 Label elements

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

Pictogram

Signal word  Danger
Hazard Statement(s)
H272 May intensify fire; oxidizer
H301 Toxic if swallowed
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
H330 Fatal if inhaled
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H340 May cause genetic defects
H350 May cause cancer
H360FD May damage fertility. May damage the unborn child.
H372 Causes severe skin burns and eye damage
H410 Very toxic to aquatic life with long lasting effects
H410 Very toxic to aquatic life with long lasting effects
H410 Very toxic to aquatic life with long lasting effects

Precautionary Statement(s)
P201 Obtain special instructions before use.
P220 Keep/Store away from clothing/combustible materials.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.


Symbol(s)

R-Phrase(s)
R45 May cause cancer.
R46 May cause heritable genetic damage.
R60 May impair fertility.
R61 May cause harm to the unborn child.
R2 Risk of explosion by shock, friction, fire or other sources of ignition.
R8 Contact with combustible material may cause fire.
R21 Harmful in contact with skin.
R25 Toxic if swallowed.
R26 Very toxic by inhalation.
R34 Causes burns.
R42/43 May cause sensitization by inhalation and skin contact.
R48/23 Toxic: danger of serious damage to health by prolonged exposure.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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).
S60 This material and its container must be disposed of as hazardous waste.
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: Ammonium bichromate

Molecular Formula \((\text{NH}_4)_2\text{Cr}_2\text{O}_7\)
Molecular Weight: 252.06
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
   nitrogen oxides (NOx), Chromium 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 below 30°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>Orange to orange-red to dark orange crystals or powder</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
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<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>No data available</td>
</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>
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<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Water Solubility: No data available
Partition coefficient: n-octanol/Water: No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

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: HX7650000

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: 1439   IMDG: 1439   IATA: 1439

14.2 UN proper shipping name
ADR/RID: Ammonium dichromate, Hi-AR™
IMDG: Ammonium dichromate, Hi-AR™
IATA: Ammonium dichromate, Hi-AR™

14.3 Transport hazard class(es)
ADR/RID: 5.1   IMDG: 5.1   IATA: 5.1

14.4 Packaging group
ADR/RID: 2   IMDG: 2   IATA: 2

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

14.6 Special precautions for use
No data available

15 Regulatory Information
This safety datasheet complies with the requirements of Regulation(EC) No.1907/2006

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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