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

1.1 Product Identifiers
Product Number          RM6420
Product Name          Cobalt hexammine trichloride
CAS No.             10534-89-1
EC No.              234-103-9

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

1.3 Details of the supplier of the safety data sheet
Produced by          HiMedia Laboratories Private Limited
Address          23, Vadhani Industrial Estate, LBS Marg, Ghatkopar (W), Mumbai - 400 086
India
Tel. No.          +91-22-2500 0970, +91-22-2500 1607
Fax No.          +91-22-25002468
Mail Id          info@himedialabs.com
Website          www.himedialabs.com

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
CLP Classification—Regulation (EC) No. 1272/2008[EU-GHS/CLP]
Sensitisation, Skin, (Category 1), H317
Sensitisation, respiratory, (Category 1), H334
Carcinogenicity, (Category 2), H351
Hazardous to the aquatic environment, long term hazard, (Category 4), H413

2.2 Label elements
Labeling according to Regulation (EC) No.1272/2008

Pictogram
Signal word          Danger

Hazard Statement(s)
H317        May cause an allergic skin reaction
H334        May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351        Suspected of causing cancer
H413        May cause long lasting harmful effects to aquatic life

Precautionary Statement(s)
P261        Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.
P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P342 + P311 IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

2.3 Other Hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3 Composition/Information On Ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt hexammine trichloride</td>
<td>As Per EC Regulation 1272/2008</td>
<td>100%</td>
</tr>
<tr>
<td>CAS No. : 10534-89-1</td>
<td>Skin Sens. 1; Resp. Sens. 1; Carc. 2; Aquatic Chronic 4</td>
<td>H317; H334; H351; H413</td>
</tr>
<tr>
<td>EC No. : 234-103-9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements and classification mentioned in this Section, see Section 16.

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 with plenty of soap and water. Consult a physician.

**In case of eye contact**
Rinse immediately with plenty of water for at least 15 minutes. Consult a physician.

**If swallowed**
Do NOT induce vomiting. 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
The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

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.
   Unsuitable extinguishing media
   No data available.

5.2 Special hazards arising from the substance or mixture
   Nitrogen oxides (NOx), Hydrogen chloride gas, Cobalt/cobalt 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 vapours, 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. Discharge into environment must be avoided.

6.3 Methods and materials for containment and cleaning up
   Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). 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 dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2

7.2 Conditions for safe storage, including any incompatibilities
   Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
   Recommended Storage Temperature : 2 - 8°C

7.3 Specific end uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8 Exposure Controls/Personal Protection

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls

**Appropriate engineering controls**
Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Hygiene measure**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with the product.

**Eye/face protection**
Faceshield and safety goggles.

**Skin protection**
Handle with gloves.

**Body protection**
Complete suit protecting against chemicals.

**Respiratory protection**
Air-purifying respirators.

**Environment exposure controls**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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>Wine-red to brownish-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>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>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (Solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</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>
<td>No data available</td>
</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
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
Incompatible material
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
Other decomposition products - refer section 5.2.
In the event of fire - refer section 5.

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
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data 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
PBT and vPvB assessment not available Chemical safety assessment is not required
12.6 Other adverse effects
Discharge into the environment must be avoided.

13 Disposal Considerations
13.1 Waste treatments methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustive solvent and burn in chemical incinerator equipped with an afterburner and scrubber.

13.2 Contaminated packaging
Dispose of as unused product.

14 Transport Information
14.1 UN-No
ADNR : ADR : IATA_C : IATA_P : IMDG : RID :
14.2 UN proper shipping name
ADNR : Not dangerous goods
ADR : Not dangerous goods
IATA_C : Not dangerous goods
IATA_P : Not dangerous goods
IMDG : Not dangerous goods
RID : Not dangerous goods
14.3 Transport hazard class(es)
ADNR : ADR : IATA_C : IATA_P : IMDG : RID :
14.4 Packaging group
ADNR : ADR : IATA_C : IATA_P : IMDG : RID :
14.5 Environmental hazards
ADNR : No  ADR : No  IMDG : Marine Pollutant : No  IATA_C : No  IATA_P : No  RID : 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
Text of H-Statements and EUH-Phrases mentioned in section 3
H317 May cause an allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351 Suspected of causing cancer
H413 May cause long lasting harmful effects to aquatic life
Skin Sens. 1 Sensitisation, Skin, Category 1
Resp. Sens. 1 Sensitisation, respiratory, Category 1
Carc. 2 Carcinogenicity, Category 2
Aquatic Chronic 4 Hazardous to the aquatic environment, long term hazard, Category 4

Further Information
Copyright 2016 HiMedia Laboratories Pvt. Ltd.
The information given in this safety data sheet is believed to be correct yet does not claim to be all inclusive. This document is intended only as a guide for appropriate precautionary handling of the material by properly trained individuals, information here being commensurate with the present state of our knowledge regarding the manner and conditions of use, handling, storage or disposal. The information provided herein shall not be considered as guarantee of the properties of the product. HiMedia Laboratories, shall not be held liable for any damage resulting from improper handling or contact with the above product. Unless explicitly stated on the product or in any of the documentation accompanying the product, it is intended for research or testing purpose only and is not to be used for any other purpose.