1. Identification

Product identifier

RMS1 Spray

Details of the supplier of the safety data sheet

Company name: Hottinger Baldwin Messtechnik GmbH
Street: Im Tiefen See 45
Place: D-64293 Darmstadt
Telephone: +49 (0)6151 803-0
E-mail: info@de.hbm.com
Internet: www.hbm.com
Responsible Department: Customer Care Center CCC 6151 803 0
Emergency phone number: +49(0)6131/19240

2. Hazard(s) Identification

Classification of the chemical

Hazard Statements:
- Highly flammable liquid and vapor
- Causes serious eye irritation
- May cause drowsiness or dizziness

Label elements

Signal word: Danger
Pictograms: flame; exclamation mark

Hazard statements

- Highly flammable liquid and vapor
- Causes serious eye irritation
- May cause drowsiness or dizziness

Precautionary statements

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Wear protective glasses/protective clothing/eye protection/face protection.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Special labelling of certain mixtures

- Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.
- Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition. - No smoking. Keep out of the reach of children.

3. Composition/information on ingredients

Mixtures
Safety Data Sheet

according to 29 CFR 1910.1200(g)

Print date: 24.06.2015

Hottinger Baldwin Messtechnik GmbH

Page 2 of 6

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>acetone</td>
<td>25-50%</td>
</tr>
<tr>
<td>67-65-0</td>
<td>propan-2-ol, isopropyl alcohol, isopropanol</td>
<td>25-50%</td>
</tr>
<tr>
<td>106-97-3</td>
<td>butane</td>
<td>10-25%</td>
</tr>
<tr>
<td>74-98-6</td>
<td>propane</td>
<td>10-25%</td>
</tr>
<tr>
<td>75-28-5</td>
<td>isobutane</td>
<td>2.5-10%</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

General information
Position and transport victim on their side. In case of respiratory distress, bring into semi-upright, seated position.

After inhalation
Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing.

After contact with eyes
If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion
Seek medical advice immediately.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2). Extinguishing powder. Water spray.
In case of major fire and large quantities: Water spray. Alcohol resistant foam.

Unsuitable extinguishing media
High power water jet.

Specific hazards arising from the chemical
Combustible. Vapours may form explosive mixtures with air.

Special protective equipment and precautions for fire-fighters
In case of fire: Wear self-contained breathing apparatus.

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition. Provide adequate ventilation.

Environmental precautions
Do not allow to enter into surface water or drains. Explosion hazard. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Methods and material for containment and cleaning up
Provide adequate ventilation. Do not rinse down with water.

7. Handling and storage

Precautions for safe handling
Advice on safe handling
Handle and open container with care.

Advice on protection against fire and explosion
Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Further information on handling
Do not spray on naked flames or any incandescent material.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place.

Advice on storage compatibility
Do not store together with: Food and feedingstuffs

Further information on storage conditions
Keep container tightly closed in a cool place. Keep away from heat.

8. Exposure controls/personal protection

Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/c</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>Acetone</td>
<td>1000</td>
<td>2400</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>590</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>75-28-5</td>
<td>Isobutane</td>
<td>800</td>
<td>1900</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>87-63-0</td>
<td>Isopropyl alcohol</td>
<td>400</td>
<td>980</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>400</td>
<td>980</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500</td>
<td>1225</td>
<td></td>
<td>STEL (15 min)</td>
<td>REL</td>
</tr>
<tr>
<td>74-96-6</td>
<td>Propane</td>
<td>1000</td>
<td>1500</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000</td>
<td>1500</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>105-97-8</td>
<td>n-Butane</td>
<td>800</td>
<td>1900</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
</tbody>
</table>

Biological Exposure Indices (BEI-ACGIH)

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>Determinant</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>2-PROPANOL</td>
<td>Acetone</td>
<td>40 mg/L</td>
<td>urine</td>
<td>End of shift at end of workweek</td>
</tr>
<tr>
<td>67-64-1</td>
<td>ACETONE</td>
<td>Acetone</td>
<td>50 mg/L</td>
<td>urine</td>
<td>End of shift</td>
</tr>
</tbody>
</table>

Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.
Safety Data Sheet
according to 29 CFR 1910.1200(g)

Print date: 24.06.2015

RMS1 Spray

Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Eye/face protection
Tightly sealed safety glasses.

Hand protection
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Wear suitable protective clothing and gloves.
Suitable gloves type: NBR (Nitrile rubber).

Respiratory protection
In case of inadequate ventilation wear respiratory protection.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
(gas filtering equipment (EN 141) : A brown )

9. Physical and chemical properties

Information on basic physical and chemical properties
Physical state: Aerosol
Color: colourless
Odor: Alcohol

Test method

Changes in the physical state
Initial boiling point and boiling range: -44 °C
Flash point: -97 °C
Lower explosion limits: 1,5 vol. %
Upper explosion limits: 13 vol. %
Ignition temperature: 365 °C
Vapor pressure:
(at 20 °C) 8300 hPa
Density (at 20 ºC): 0,70254 g/cm³

10. Stability and reactivity

Conditions to avoid
Keep away from heat. Ignition hazard.

11. Toxicological information

Information on toxicological effects
Safety Data Sheet

according to 29 CFR 1910.1200(g)

Print date: 24.06.2015

Page 5 of 6

Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>acetone</td>
<td>oral</td>
<td>LD50</td>
<td>5000 mg/kg</td>
<td>Rat</td>
<td>RTECS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>20000 mg/kg</td>
<td>Rabbit</td>
<td>IUCLID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) vapour</td>
<td>LC50</td>
<td>76 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>106-97-8</td>
<td>butane</td>
<td>inhalative (4 h) gas</td>
<td>LC50</td>
<td>273000 ppm</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Intradermal injection: Irritant.
Intracellular injection: Irritant.
Irritant effect on the skin: Irritant.
Irritant effect on the eye: Irritant.

Additional information on tests
The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

12. Ecological Information

Further information
Do not allow to enter into surface water or drains.

13. Disposal considerations

Waste treatment methods
Advice on disposal
Dispose of waste according to applicable legislation.

Contaminated packaging
Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

Marine transport (IMDG)

<table>
<thead>
<tr>
<th>UN number:</th>
<th>UN1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name:</td>
<td>AEROSOLS</td>
</tr>
<tr>
<td>Transport hazard class(es):</td>
<td>2</td>
</tr>
<tr>
<td>Packing group:</td>
<td>-</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>2, see SP63</td>
</tr>
</tbody>
</table>

Limited quantity: See SP277
EmS: F-D, S-U

Air transport (ICAO)

<table>
<thead>
<tr>
<th>UN number:</th>
<th>UN1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name:</td>
<td>AEROSOLS</td>
</tr>
<tr>
<td>Transport hazard class(es):</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Safety Data Sheet
according to 29 CFR 1910.1200(g)

Print date: 24.05.2015

RMS1 Spray

Hazard label: 2.1

Limited quantity Passenger: 30 kg G
IATA-packing instructions - Passenger: 203
IATA-max. quantity - Passenger: 75 kg
IATA-packing instructions - Cargo: 203
IATA-max. quantity - Cargo: 150 kg

15. Regulatory information

U.S. Regulations

National regulatory information
SARA Section 304 CERCLA:
Acetone (67-64-1): Reportable quantity = 5,000 (2270) lbs. (kg)
SARA Section 311/312 Hazards:
Acetone (67-64-1): Fire hazard, Immediate (acute) health hazard
Isopropyl alcohol (meq-strong acid process) (67-63-0): Fire hazard, Immediate (acute) health hazard
Butane (106-97-8): Fire hazard
Propane (74-98-6): Fire hazard
Isobutane (75-28-5): Fire hazard
SARA Section 313 Toxic release inventory:
Isopropyl alcohol (meq-strong acid process) (67-63-0): De minimis limit = 1.0 %, Reportable threshold = Standard
Clean Air Act Section 112(r):
Butane (106-97-8): Threshold quantities = 10,000 lbs.
Propane (74-98-6): Threshold quantities = 10,000 lbs.
Isobutane (75-28-5): Threshold quantities = 10,000 lbs.

State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Revision date: 21.05.2015
Revision No: 5.02

Other data
The information is based on present levels of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)