SAFETY DATA SHEET

Section 1: Identification of the chemical and of the supplier

Product identifier: CO Contact Cleaner

Other means of identification
- Product code: 2016M

Recommended use of the chemical and restrictions on use
- Recommended use: Not available.
- Recommended restrictions: None known.

Details of principal suppliers

Manufacturer
- Company name: CRC Industries, Inc.
- Address: 885 Louis Dr., Warminster, PA 18974 US
- Telephone
  - General Information: 215-674-4300
  - Technical Assistance: 800-521-3168
  - Customer Service: 800-272-4620
  - 24-Hour Emergency (CHEMTREC): 703-527-3887 (International)
- Website: www.crcindustries.com

Section 2: Hazard identification

Physical hazards
- Category 1: Flammable aerosols
- Gases under pressure: Compressed gas

Health hazards
- Category 2: Skin corrosion or irritation
- Specific target organ toxicity - single exposure: Aspiration hazard

Environmental hazards
- Category 2: Hazardous to the aquatic environment - chronic hazard

Label elements

Signal word: Danger

Hazard statement
- Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing mist or vapor. Avoid breathing gas. Use only outdoors or in a well-ventilated area. Wear protective gloves. Wash thoroughly after handling. Avoid release to the environment.

Response
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Collect spillage.

Storage
- Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3: Composition and information of the ingredients of the hazardous chemical

Mixtures

Material name: CO Contact Cleaner

2016M  Version #: 02  Revision date: 08-28-2015  Issue date: 03-20-2015
### Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphtha (petroleum), hydrotreated light</td>
<td>&gt;= 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n-Hexane</td>
<td>110-54-3</td>
<td>3 - 5</td>
<td></td>
</tr>
<tr>
<td>2,2-Dimethylbutane</td>
<td>75-83-2</td>
<td>&lt; 0.2</td>
<td></td>
</tr>
<tr>
<td>2-Methylpentane</td>
<td>107-83-5</td>
<td>&lt; 0.2</td>
<td></td>
</tr>
</tbody>
</table>

### Non-hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide</td>
<td>124-38-9</td>
<td>5 - 10</td>
<td></td>
</tr>
</tbody>
</table>

### Section 4: First-aid measures

**Inhalation**
- Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact**
- Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Eye contact**
- Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
- Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed**

**Indication of immediate medical attention and special treatment needed**
- Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information**
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### Section 5: Fire-fighting measures

**Suitable extinguishing media**

**Unsuitable extinguishing media**
- None known.

**Specific hazards arising from the chemical**
- Contents under pressure. Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
- Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**Fire fighting equipment/instructions**
- In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

**HAZCHEM code**
- None

**Specific methods**
- Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.

**General fire hazards**
- Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

### Section 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
- Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Avoid breathing gas. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Personal precautions, protective equipment and emergency procedures**
- Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

Section 7: Handling and storage

Precautions for safe handling
Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid breathing mist or vapor. Avoid breathing gas. Avoid contact with eyes, skin, and clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities
Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Secure cylinders in an upright position at all times, close all valves when not in use. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

Section 8: Exposure controls and personal protection

Occupational exposure limits
Malaysia, OELs. (Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dimethylbutane</td>
<td>TWA</td>
<td>1760 mg/m3</td>
</tr>
<tr>
<td>(CAS 75-83-2)</td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td>2-Methylpentane</td>
<td>TWA</td>
<td>1760 mg/m3</td>
</tr>
<tr>
<td>(CAS 107-83-5)</td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>TWA</td>
<td>9000 mg/m3</td>
</tr>
<tr>
<td>(CAS 124-38-9)</td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>TWA</td>
<td>176 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dimethylbutane</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>(CAS 75-83-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Methylpentane</td>
<td>TWA</td>
<td>500 ppm</td>
</tr>
<tr>
<td>(CAS 107-83-5)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>TWA</td>
<td>500 ppm</td>
</tr>
<tr>
<td>(CAS 124-38-9)</td>
<td>STEL</td>
<td>3000 ppm</td>
</tr>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>TWA</td>
<td>5000 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

<table>
<thead>
<tr>
<th>ACGIH Biological Exposure Indices</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>0.4 mg/l</td>
<td>2,5-Hexanediol, without hydrolysis</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

Exposure guidelines

Malaysia OELs: Skin designation
n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation
n-Hexane (CAS 110-54-3) Can be absorbed through the skin.
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

**Eye/face protection**
Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**
Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC). Viton®.

**Other**
Wear appropriate chemical resistant clothing.

**Respiratory protection**
Chemical respirator with organic vapor cartridge and full facepiece.

**Thermal hazards**
Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**
When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

---

**Section 9: Physical and chemical properties**

**Appearance**

**Physical state**
Liquid.

**Form**
Aerosol.

**Color**
Clear. Colorless.

**Odor**
Not available.

**Odor threshold**
Not available.

**pH**
Not available.

**Melting point/freezing point**
Not available.

**Initial boiling point and boiling range**
123 °F (50.6 °C) estimated

**Flash point**
< 0 °F (< -17.8 °C) Tag Closed Cup

**Evaporation rate**
Not available.

**Flammability (solid, gas)**
Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)**
1.1 % estimated

**Flammability limit - upper (%)**
7.3 % estimated

**Explosive limit - lower (%)**
1.1 %

**Explosive limit - upper (%)**
7.3 %

**Vapor pressure**
3558.3 hPa estimated

**Vapor density**
> 1 (air = 1)

**Relative density**
0.71 estimated

**Solubility(ies)**

**Solubility (water)**
Negligible.

**Partition coefficient (n-octanol/water)**
Not available.

**Auto-ignition temperature**
489.2 °F (254 °C) estimated

**Decomposition temperature**
Not available.

**Viscosity**
Not available.

---

**Section 10: Stability and reactivity**

**Reactivity**
The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability**
Material is stable under normal conditions.

**Possibility of hazardous reactions**
No dangerous reaction known under conditions of normal use.

**Conditions to avoid**
Heat. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous decomposition products**
No hazardous decomposition products are known.
Section 11: Toxicological information

Information on likely routes of exposure

**Inhalation**

**Skin contact**
Causes skin irritation.

**Eye contact**
Direct contact with eyes may cause temporary irritation.

**Ingestion**
Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Symptoms related to the physical, chemical and toxicological characteristics**

Information on toxicological effects

**Acute toxicity**
May be fatal if swallowed and enters airways. Narcotic effects.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO Contact Cleaner</td>
<td></td>
<td><strong>Acute</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Dermal</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD50</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation**
Causes skin irritation.

**Serious eye damage/eye irritation**
Direct contact with eyes may cause temporary irritation.

**Respiratory sensitization**
Not available.

**Skin sensitization**
This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

IARC Monographs. Overall Evaluation of Carcinogenicity
Not available.

US NTP Report on Carcinogens: Anticipated carcinogen
Not available.

US NTP Report on Carcinogens: Known carcinogen
Not available.

**Reproductive toxicity**
This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure**
May cause drowsiness and dizziness.

**Specific target organ toxicity - repeated exposure**
Not classified.

**Aspiration hazard**
May be fatal if swallowed and enters airways.

Section 12: Ecological information

**Ecotoxicity**
Toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO Contact Cleaner</td>
<td></td>
<td><strong>Aquatic</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish</td>
</tr>
</tbody>
</table>

Material name: CO Contact Cleaner
Version #: 02    Revision date: 08-28-2015    Issue date: 03-20-2015

SDS MALAYSIA
**Components Test Results**

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n-Hexane (CAS 110-54-3)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability**

No data is available on the degradability of this product.

**Bioaccumulative potential**

No data available.

**Partition coefficient n-octanol / water (log Kow)**

- 2,2-Dimethylbutane: 3.82
- 2-Methylpentane: 3.74
- n-Hexane: 3.9

**Mobility in soil**

No data available.

**Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**Section 13: Disposal information**

**Disposal of waste from residues / unused products**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

**Section 14: Transportation information**

**ADR**

| UN number | UN1950 |
| UN proper shipping name | AEROSOLS, flammable, Limited Quantity |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Hazard No. (ADR) | Not available. |
| Tunnel restriction code | D |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

**RID**

| UN number | UN1950 |
| UN proper shipping name | AEROSOLS, flammable, Limited Quantity |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Label(s) | 2.1 |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

**IATA**

| UN number | UN1950 |
| UN proper shipping name | Aerosols, flammable, Limited Quantity |
| Transport hazard class(es) | |
| Class | 2.1 |
| Subsidiary risk | - |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| ERG Code | 10L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

**Other information**

| Passenger and cargo aircraft | Allowed. |
| Cargo aircraft only | Allowed. |
IMDG

UN number UN1950
UN proper shipping name AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)

Class 2
Subsidiary risk -
Packing group Not applicable.
Environmental hazards
Marine pollutant No.
EmS Not available.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
ADR; IATA; IMDG; RID

HAZCHEM code None

Section 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

- Active Ingredients of Pesticide Product (Pesticide Act 1974, First Schedule, as amended through October 1, 2004)
  Not regulated.
  Not regulated.
- Medical Surveillance Chemicals, Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000: Schedule 2
  n-Hexane (CAS 110-54-3)
- Ozone Depleting Substances (ODS) (Environmental Quality (Prohibition on the Use of CFC and Other Gases as Propellants and Blowing Agents) Order 1993, Dec. 31, 1993)
  Not regulated.
- Prohibited Use of Substances [Occupational Safety and Health (Prohibition of Use of Substance) Order 1999]
  n-Hexane (CAS 110-54-3)

International regulations
- Stockholm Convention
  Not applicable.
- Rotterdam Convention
  Not applicable.
- Montreal Protocol
  Not applicable.
- Kyoto protocol
  Carbon dioxide (CAS 124-38-9) Listed.

Section 16: Other information

Issue date 03-20-2015
Revision date 08-28-2015
Version # 02
List of abbreviations Not available.
References Not available.
Disclaimer

CRC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information

Composition / Information on Ingredients: Ingredients
Section 5: Fire-fighting measures: Suitable extinguishing media
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information
GHS: Classification