



SAFETY DATA SHEET

1. Identification

Product identifier Chlor-Free® Degreaser

Other means of identification
Product Code No. 03187 (Item# 1003442)

Recommended use General purpose degreaser

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information
Manufactured or sold by:

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) 800-424-9300 (US)
Website www.crcindustries.com

2. Hazard(s) identification

| | | |
|------------------------------|--|---|
| Physical hazards | Flammable liquids | Category 2 |
| Health hazards | Acute toxicity, oral | Category 4 |
| | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2A |
| | Carcinogenicity | Category 2 |
| | Reproductive toxicity | Category 1A |
| | Specific target organ toxicity, single exposure | Category 1 (central nervous system, eyes) |
| | Specific target organ toxicity, single exposure | Category 3 narcotic effects |
| | Specific target organ toxicity, repeated exposure | Category 1 |
| Environmental hazards | Aspiration hazard | Category 1 |
| | Hazardous to the aquatic environment, acute hazard | Category 1 |
| | Hazardous to the aquatic environment, long-term hazard | Category 1 |
| OSHA defined hazards | Not classified. | |

Label elements



Signal word

Danger

Hazard statement

Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs (central nervous system, eyes). Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response

If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed: Call a poison center/doctor. In case of fire: Do not use water jet as an extinguisher, as this will spread the fire. Collect spillage.

Storage

Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

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

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information

None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---|--------------------------|------------|---------|
| cyclohexane | | 110-82-7 | 70 - 80 |
| ethanol | | 64-17-5 | 5 - 10 |
| naphtha (petroleum), hydrotreated light | | 64742-49-0 | 5 - 10 |
| methanol | | 67-56-1 | 3 - 5 |
| 2-methylpentane | | 107-83-5 | 1 - 3 |
| n-hexane | | 110-54-3 | < 1 |
| methyl isobutyl ketone | | 108-10-1 | < 0.2 |

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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

Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

| | |
|--|--|
| Suitable extinguishing media | Water fog. Foam. Carbon dioxide (CO ₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | Highly flammable liquid and vapor. |

6. Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination. |

7. Handling and storage

| | |
|--------------------------------------|--|
| Precautions for safe handling | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label. |
|--------------------------------------|--|

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection
Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value |
|--|------|------------------------|
| cyclohexane (CAS 110-82-7) | PEL | 1050 mg/m ³ |
| | | 300 ppm |
| ethanol (CAS 64-17-5) | PEL | 1900 mg/m ³ |
| | | 1000 ppm |
| methanol (CAS 67-56-1) | PEL | 260 mg/m ³ |
| | | 200 ppm |
| methyl isobutyl ketone (CAS 108-10-1) | PEL | 410 mg/m ³ |
| | | 100 ppm |
| naphtha (petroleum), hydrotreated light (CAS 64742-49-0) | PEL | 400 mg/m ³ |
| | | 100 ppm |
| n-hexane (CAS 110-54-3) | PEL | 1800 mg/m ³ |
| | | 500 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|---------------------------------------|------|----------|
| 2-methylpentane (CAS 107-83-5) | STEL | 1000 ppm |
| | TWA | 500 ppm |
| cyclohexane (CAS 110-82-7) | TWA | 100 ppm |
| | | |
| ethanol (CAS 64-17-5) | STEL | 1000 ppm |
| | | |
| methanol (CAS 67-56-1) | STEL | 250 ppm |
| | TWA | 200 ppm |
| methyl isobutyl ketone (CAS 108-10-1) | STEL | 75 ppm |
| | TWA | 20 ppm |
| n-hexane (CAS 110-54-3) | TWA | 50 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|--------------------------------|---------|------------------------|
| 2-methylpentane (CAS 107-83-5) | Ceiling | 1800 mg/m ³ |
| | | 510 ppm |
| | TWA | 350 mg/m ³ |
| cyclohexane (CAS 110-82-7) | TWA | 1050 mg/m ³ |
| | | 300 ppm |
| ethanol (CAS 64-17-5) | TWA | 1900 mg/m ³ |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|--|------|-----------------------|
| methanol (CAS 67-56-1) | STEL | 1000 ppm 325 mg/m3 |
| | TWA | 250 ppm 260 mg/m3 |
| methyl isobutyl ketone (CAS 108-10-1) | STEL | 200 ppm 300 mg/m3 |
| | TWA | 75 ppm 205 mg/m3 |
| naphtha (petroleum), hydrotreated light (CAS 64742-49-0) | TWA | 50 ppm 400 mg/m3 |
| | TWA | 100 ppm 180 mg/m3 |
| n-hexane (CAS 110-54-3) | TWA | 50 ppm |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Determinant | Specimen | Sampling Time |
|---------------------------------------|----------|-------------------------------------|----------|---------------|
| methanol (CAS 67-56-1) | 15 mg/l | Methanol | Urine | * |
| methyl isobutyl ketone (CAS 108-10-1) | 1 mg/l | Methyl isobutyl ketone | Urine | * |
| n-hexane (CAS 110-54-3) | 0.5 mg/l | 2,5-Hexanedione, without hydrolysis | Urine | * |

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

Exposure guidelines

US - California OELs: Skin designation

methanol (CAS 67-56-1) Can be absorbed through the skin.
n-hexane (CAS 110-54-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

methanol (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation

methanol (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

methanol (CAS 67-56-1) Can be absorbed through the skin.
n-hexane (CAS 110-54-3) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

methanol (CAS 67-56-1) Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

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. Viton/butyl.

Other Wear appropriate chemical resistant clothing.

| | |
|---------------------------------------|--|
| Respiratory protection | If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. 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. |

9. Physical and chemical properties

Appearance

| | |
|---|------------------------------|
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Water-white. |
| Odor | Mild solvent. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | -144 °F (-97.8 °C) estimated |
| Initial boiling point and boiling range | 118.4 °F (48 °C) estimated |
| Flash point | < 0 °F (< -17.8 °C) |
| Evaporation rate | Fast. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | 1 % estimated |
| Flammability limit - upper (%) | 36 % estimated |
| Vapor pressure | 139.7 hPa estimated |
| Vapor density | > 1 (air = 1) |
| Relative density | 0.76 |
| 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. |
| Percent volatile | 98.1 % estimated |

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 | Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | Carbon oxides. Hydrocarbon fumes and smoke. Aldehydes. Formaldehyde. |

11. Toxicological information

Information on likely routes of exposure

| | |
|-------------------|--|
| Inhalation | May cause damage to organs by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful. |
|-------------------|--|

Skin contact Causes skin irritation.
Eye contact Causes serious eye irritation.
Ingestion Harmful if swallowed. 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 Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

| Product | Species | Test Results |
|--|----------------|-------------------------------|
| Chlor-Free® Degreaser | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 2404 mg/kg calculated |
| Inhalation | | |
| LC50 | Rat | 36.8 mg/l, 4 hours calculated |
| Components | | |
| cyclohexane (CAS 110-82-7) | | |
| Acute | | |
| Oral | | |
| LD50 | Rat | 29820 mg/kg |
| ethanol (CAS 64-17-5) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 20 g/kg |
| Inhalation | | |
| LC50 | Rat | 8000 mg/l, 4 hours |
| Oral | | |
| LD50 | Rat | 6200 mg/kg 6.2 g/kg |
| methanol (CAS 67-56-1) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 12800 mg/kg |
| Oral | | |
| LD50 | Rat | 5628 mg/kg |
| methyl isobutyl ketone (CAS 108-10-1) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 3 g/kg |
| Inhalation | | |
| LC50 | Rat | 8.2 mg/l, 4 Hours |
| Oral | | |
| LD50 | Rat | 2080 mg/kg |
| naphtha (petroleum), hydrotreated light (CAS 64742-49-0) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 2000 mg/kg |
| Inhalation | | |
| LC50 | Rat | 61 mg/l, 4 Hours |

| Components | Species | Test Results |
|---|--|-------------------------------------|
| Oral LD50 | Rat | > 5000 mg/kg |
| n-hexane (CAS 110-54-3) | | |
| Acute | | |
| Dermal LD50 | Rabbit | > 1300 mg/kg |
| Oral LD50 | Rat | 15840 mg/kg |
| Skin corrosion/irritation | Causes skin irritation. | |
| Serious eye damage/eye irritation | Causes serious eye irritation. | |
| Respiratory or skin sensitization | | |
| Respiratory sensitization | Not a respiratory sensitizer. | |
| 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 | Suspected of causing cancer. | |
| IARC Monographs. Overall Evaluation of Carcinogenicity | | |
| methyl isobutyl ketone (CAS 108-10-1) | | 2B Possibly carcinogenic to humans. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052) | | |
| Not regulated. | | |
| US. National Toxicology Program (NTP) Report on Carcinogens | | |
| Not listed. | | |
| Reproductive toxicity | May damage fertility or the unborn child. | |
| Specific target organ toxicity - single exposure | Causes damage to organs (central nervous system, eyes). May cause drowsiness and dizziness. | |
| Specific target organ toxicity - repeated exposure | Causes damage to organs through prolonged or repeated exposure. | |
| Aspiration hazard | May be fatal if swallowed and enters airways. | |
| Chronic effects | Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. | |

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

| Components | Species | Test Results |
|---------------------------------------|---------|--|
| cyclohexane (CAS 110-82-7) | | |
| Aquatic | | |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) 23.03 - 42.07 mg/l, 96 hours |
| ethanol (CAS 64-17-5) | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Crustacea | EC50 | Water flea (<i>Ceriodaphnia dubia</i>) 5012 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>) > 10000 mg/l, 96 hours |
| methanol (CAS 67-56-1) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (<i>Daphnia magna</i>) > 10000 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours |
| methyl isobutyl ketone (CAS 108-10-1) | | |
| Aquatic | | |
| Fish | LC50 | Fathead minnow (<i>Pimephales promelas</i>) 492 - 593 mg/l, 96 hours |

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

| | |
|------------------------|-------|
| 2-methylpentane | 3.74 |
| cyclohexane | 3.44 |
| ethanol | -0.31 |
| methanol | -0.77 |
| methyl isobutyl ketone | 1.31 |
| n-hexane | 3.9 |

Bioconcentration factor (BCF)

| | |
|---|------------|
| naphtha (petroleum), hydrotreated light | 10 - 25000 |
|---|------------|

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.

13. Disposal considerations

Disposal instructions If discarded, this product is considered a RCRA ignitable waste, D001. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

US RCRA Hazardous Waste U List: Reference

| | |
|----------------------------|------|
| cyclohexane (CAS 110-82-7) | U056 |
|----------------------------|------|

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

| | |
|-------------------------------------|--|
| UN number | UN1993 |
| UN proper shipping name | Flammable liquids, n.o.s. (cyclohexane RQ = 1342 LBS, ethanol RQ = 1015 LBS) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Label(s) | 3 |
| Packing group | II |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | IB2, T7, TP1, TP8, TP28 |
| Packaging exceptions | 150 |
| Packaging non bulk | 202 |
| Packaging bulk | 242 |

IATA

| | |
|-------------------------------------|---|
| UN number | UN1993 |
| UN proper shipping name | Flammable liquid, n.o.s. (cyclohexane, ethanol) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Packing group | II |
| ERG Code | 3H |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Other information | |
| Passenger and cargo aircraft | Allowed with restrictions. |
| Cargo aircraft only | Allowed with restrictions. |

IMDG

| | |
|-----------------------------------|---|
| UN number | UN1993 |
| UN proper shipping name | FLAMMABLE LIQUID, N.O.S. (cyclohexane, ethanol), MARINE POLLUTANT |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |

Packing group II
Environmental hazards
Marine pollutant Yes
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT



IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

- CYCLOHEXANE (CAS 110-82-7)
- METHANOL (CAS 67-56-1)
- METHYL ISOBUTYL KETONE (CAS 108-10-1)
- N-HEXANE (CAS 110-54-3)

CERCLA Hazardous Substance List (40 CFR 302.4)

- | | |
|---------------------------------------|---------|
| cyclohexane (CAS 110-82-7) | Listed. |
| methanol (CAS 67-56-1) | Listed. |
| methyl isobutyl ketone (CAS 108-10-1) | Listed. |
| n-hexane (CAS 110-54-3) | Listed. |

CERCLA Hazardous Substances: Reportable quantity

- | | |
|----------------------------|----------|
| cyclohexane (CAS 110-82-7) | 1000 LBS |
|----------------------------|----------|

| | |
|---------------------------------------|----------|
| methanol (CAS 67-56-1) | 5000 LBS |
| methyl isobutyl ketone (CAS 108-10-1) | 5000 LBS |
| n-hexane (CAS 110-54-3) | 5000 LBS |

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

methanol (CAS 67-56-1)
 methyl isobutyl ketone (CAS 108-10-1)
 n-hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

methyl isobutyl ketone (CAS 108-10-1) 6715

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

methyl isobutyl ketone (CAS 108-10-1) 35 %WV

DEA Exempt Chemical Mixtures Code Number

methyl isobutyl ketone (CAS 108-10-1) 6715

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

ethanol (CAS 64-17-5) Low priority
 methyl isobutyl ketone (CAS 108-10-1) Low priority

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
 Acute toxicity (any route of exposure)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Reproductive toxicity
 Specific target organ toxicity (single or repeated exposure)
 Aspiration hazard
 Hazard not otherwise classified (HNOC)

SARA 302 Extremely hazardous substance

Not listed.

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|---------------|------------|----------|
| cyclohexane | 110-82-7 | 70 - 80 |
| methanol | 67-56-1 | 3 - 5 |
| n-hexane | 110-54-3 | < 1 |

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

2-methylpentane (CAS 107-83-5)
 cyclohexane (CAS 110-82-7)
 ethanol (CAS 64-17-5)
 methanol (CAS 67-56-1)
 methyl isobutyl ketone (CAS 108-10-1)
 naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
 n-hexane (CAS 110-54-3)

US. Massachusetts RTK - Substance List

2-methylpentane (CAS 107-83-5)
 cyclohexane (CAS 110-82-7)
 ethanol (CAS 64-17-5)
 methanol (CAS 67-56-1)
 methyl isobutyl ketone (CAS 108-10-1)
 naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
 n-hexane (CAS 110-54-3)

US. Pennsylvania Worker and Community Right-to-Know Law

2-methylpentane (CAS 107-83-5)
cyclohexane (CAS 110-82-7)
ethanol (CAS 64-17-5)
methanol (CAS 67-56-1)
methyl isobutyl ketone (CAS 108-10-1)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-hexane (CAS 110-54-3)

US. Rhode Island RTK

cyclohexane (CAS 110-82-7)
ethanol (CAS 64-17-5)
methanol (CAS 67-56-1)
methyl isobutyl ketone (CAS 108-10-1)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-hexane (CAS 110-54-3)

California Proposition 65



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

California Proposition 65 - CRT: Listed date/Carcinogenic substance

benzene (CAS 71-43-2) Listed: February 27, 1987
methyl isobutyl ketone (CAS 108-10-1) Listed: November 4, 2011

California Proposition 65 - CRT: Listed date/Developmental toxin

benzene (CAS 71-43-2) Listed: December 26, 1997
methanol (CAS 67-56-1) Listed: March 16, 2012
methyl isobutyl ketone (CAS 108-10-1) Listed: March 28, 2014
toluene (CAS 108-88-3) Listed: January 1, 1991

California Proposition 65 - CRT: Listed date/Male reproductive toxin

benzene (CAS 71-43-2) Listed: December 26, 1997
n-hexane (CAS 110-54-3) Listed: December 15, 2017

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

methanol (CAS 67-56-1)
methyl isobutyl ketone (CAS 108-10-1)
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-hexane (CAS 110-54-3)

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s)) 100 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is not for retail sale. It is for use in the manufacturing process only.

VOC content (CA) 100 %

VOC content (OTC) 100 %

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

| | |
|-----------------------------|--|
| Issue date | 08-27-2014 |
| Revision date | 12-13-2018 |
| Prepared by | Allison Yoon |
| Version # | 04 |
| Further information | CRC # 463A-C/1008112-1002461 |
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| Revision information | This document has undergone significant changes and should be reviewed in its entirety. |