



SAFETY DATA SHEET

1. Identification

Product identifier	QD™ Contact Cleaner
Other means of identification	
Product Code	Item# 1750737
Recommended use	Electronic contact cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufactured or sold by:	
Company name	CRC Canada Co.
Address	2-1246 Lorimar Drive Mississauga, Ontario L5S 1R2 Canada
Telephone	
General Information	905-670-2291
24-Hour Emergency (CHEMTREC)	800-424-9300 (Canada)
Website	www.crc-canada.ca
E-mail	Support.CA@crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
	Simple asphyxiants	Category 1
	Physical hazards not otherwise classified	Category 1
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Reproductive toxicity	Category 1A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2

Label elements



Signal word

Danger

Hazard statement

Highly flammable liquid and vapor. 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. May displace oxygen and cause rapid suffocation. May be fatal if swallowed and enters airways. Causes skin irritation. Causes eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility. Toxic to aquatic life. 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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. These alone may be insufficient to remove static electricity. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Avoid release to the environment.

Response

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. 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 or concerned: Get medical advice/attention. In case of fire: Do not use water jet as an extinguisher, as this will spread the fire. In case of leakage, eliminate all ignition sources. 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/international regulations.

Other hazards

None known.

Supplemental information

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-methylpentane		107-83-5	30 - 60
1,1,1,3,3-pentafluorobutane	HFC-365mfc	406-58-6	15 - 40
naphtha (petroleum), hydrotreated light		64742-49-0	15 - 40
n-hexane		110-54-3	5 - 10
2,2,4-trimethylpentane		540-84-1	3 - 7
n-pentane		109-66-0	1 - 5
methanol		67-56-1	0.1 - 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately.

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. Headache. Fatigue. Nausea, vomiting. Very high exposure can cause suffocation from lack of oxygen. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

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 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 (CO₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Use fire-extinguishing media appropriate for surrounding materials.

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. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride.

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.

Specific methods 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 In the event of a leak evacuate all personnel until ventilation can restore oxygen concentrations to safe levels. 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. Avoid breathing mist or vapor. 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. Use appropriate containment to avoid environmental contamination. 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. Prevent product from entering drains.

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. 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. When using do not smoke. 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. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Do not enter storage areas or confined spaces unless adequately ventilated. Use only outdoors or in a well-ventilated area. Oxygen concentration should not fall below 19.5 % at sea level (pO₂ = 135 mmHg). Mechanical ventilation or local exhaust ventilation may be required. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

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 original 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

US. ACGIH Threshold Limit Values

Components	Type	Value
2-methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
n-hexane (CAS 110-54-3)	TWA	50 ppm
n-pentane (CAS 109-66-0)	TWA	1000 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
2,2,4-trimethylpentane (CAS 540-84-1)	TWA	1400 mg/m ³
		300 ppm
2-methylpentane (CAS 107-83-5)	STEL	3500 mg/m ³
	TWA	1000 ppm
		1760 mg/m ³
		500 ppm
methanol (CAS 67-56-1)	STEL	328 mg/m ³
		250 ppm
	TWA	262 mg/m ³
		200 ppm
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	TWA	1590 mg/m ³
		400 ppm
n-hexane (CAS 110-54-3)	TWA	176 mg/m ³
		50 ppm
n-pentane (CAS 109-66-0)	TWA	1770 mg/m ³
		600 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
2-methylpentane (CAS 107-83-5)	TWA	200 ppm
methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
n-hexane (CAS 110-54-3)	TWA	20 ppm
n-pentane (CAS 109-66-0)	TWA	600 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
2-methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
n-hexane (CAS 110-54-3)	TWA	50 ppm
n-pentane (CAS 109-66-0)	TWA	1000 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
2-methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
n-hexane (CAS 110-54-3)	TWA	50 ppm
n-pentane (CAS 109-66-0)	TWA	600 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value
2,2,4-trimethylpentane (CAS 540-84-1)	STEL	1750 mg/m3
	TWA	375 ppm 1400 mg/m3
2-methylpentane (CAS 107-83-5)	STEL	300 ppm 3500 mg/m3
	TWA	1000 ppm 1760 mg/m3
methanol (CAS 67-56-1)	STEL	500 ppm 328 mg/m3
	TWA	250 ppm 262 mg/m3
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	TWA	200 ppm 1590 mg/m3
	TWA	400 ppm
n-hexane (CAS 110-54-3)	TWA	176 mg/m3
n-pentane (CAS 109-66-0)	TWA	50 ppm
	TWA	350 mg/m3 120 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
n-hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedione, without hydrolysis	Urine	*

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

Exposure guidelines**Canada - Alberta 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.

Canada - British Columbia 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.

Canada - Manitoba 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.

Canada - Ontario 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.

Canada - Quebec 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.

Canada - Saskatchewan 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 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.

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.

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. 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 Colorless.

Odor Alcoholic.

Odor threshold Not available.

pH Not available.

Melting point/freezing point	Not available.
Initial boiling point and boiling range	104.2 °F (40.1 °C) estimated
Flash point	< 0 °F (< -17.8 °C) Setaflash
Evaporation rate	Very fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.9 % estimated
Flammability limit - upper (%)	36 % estimated
Vapor pressure	355.7 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.74
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.
Other information	
Percent volatile	99.1 % 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. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Hydrogen fluoride. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes eye 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 Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Fatigue. Nausea, vomiting. Very high exposure can cause suffocation from lack of oxygen. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Components	Species	Test Results
1,1,1,3,3-pentafluorobutane (CAS 406-58-6)		
Acute		
Oral		
LD50	Rat	> 2000 mg/kg
2,2,4-trimethylpentane (CAS 540-84-1)		
Acute		
Inhalation		
LC50	Rat	118 mg/l, 4 Hours
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
n-hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 1300 mg/kg
Oral		
LD50	Rat	15840 mg/kg
n-pentane (CAS 109-66-0)		
Acute		
Inhalation		
<i>Vapor</i>		
LC50	Rat	364 mg/m3, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes eye irritation.	
Respiratory or skin sensitization		
Canada - Alberta OELs: Irritant		
2,2,4-trimethylpentane (CAS 540-84-1)	Irritant	
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	Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	Suspected of damaging fertility.	
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.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test Results
1,1,1,3,3-pentafluorobutane (CAS 406-58-6)		
Aquatic		
<i>Acute</i>		
Algae	EC50	Green algae (Selenastrum capricornutum) > 114 mg/l, 72 hours
	NOEC	Green algae (Selenastrum capricornutum) 13.2 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna) 980 mg/l, 48 hours
		> 200 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss) > 100 mg/l, 96 hours
		Zebra danio (Danio rerio) > 200 mg/l, 96 hours
<i>Chronic</i>		
Fish	NOEC	Fathead minnow (Pimephales promelas) 38.2 mg/l, 30 days
2-methylpentane (CAS 107-83-5)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Daphnia 1 - 10 mg/l, 48 hours
Fish	LC50	Fish 1 - 10 mg/l, 96 hours
naphtha (petroleum), hydrotreated light (CAS 64742-49-0)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Daphnia 1 - 10 mg/l, 48 hours
Fish	LC50	Fish 1 - 10 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)

1,1,1,3,3-pentafluorobutane	1.61
2,2,4-trimethylpentane	5.18
2-methylpentane	3.74
methanol	-0.77
n-hexane	3.9
n-pentane	3.39

Bioconcentration factor (BCF)

naphtha (petroleum), hydrotreated light	10 - 25000
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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 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 of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

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

TDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (isohexane, pentafluorobutane)
Transport hazard class(es)	
Class	3

Subsidiary risk -
Packing group II
Environmental hazards Yes
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions 16

IATA

UN number UN1993
UN proper shipping name Flammable liquid, n.o.s. (isohexane, pentafluorobutane)
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards Yes
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. (isohexane, pentafluorobutane), 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.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Canada. Excluded VOCs. Guidelines for Volatile Organic Compounds in Consumer Products. CEPA 1999. Environment Canada, as amended

1,1,1,3,3-pentafluorobutane (CAS 406-58-6)

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

methanol (CAS 67-56-1)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

1,1,1,3,3-pentafluorobutane (CAS 406-58-6) Listed.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

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)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Toxic Chemical Substances (TCS)	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

Issue date	06-27-2018
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Further information	CRC # 844/1002820
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