



SAFETY DATA SHEET

INGERSOLL RAND

Product name: Ingersoll Rand Ultra Coolant

Issue Date: 19.03.2019

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INGERSOLL RAND encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: Ingersoll Rand Ultra Coolant

Recommended use of the chemical and restrictions on use

Identified uses: Selection of the appropriate polyglycol product for a specific application requires knowledge of the fluid requirements of the application, awareness of the most important of these requirements, and a match-up with the properties of the various polyglycol materials. Polyglycol products can be formulated for use in numerous industry applications such as hydraulic fluids, quenchants, compressor and refrigeration lubricants, heat transfer fluids, machinery lubricants, solder assist fluids, metalworking lubricants, textile finishing, etc. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION

Distributed By
INGERSOLL RAND
800D BEATY ST
DAVIDSON, NC 28036
UNITED STATES

Customer Information Number: +01 704-655-4000

EMERGENCY TELEPHONE NUMBER

U.S.A. 24-Hour Emergency # : 800-424-9300
Outside U.S.A. 24-Hour Emergency # : +01 703-527-3887

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification

Not classified as hazardous according to the criteria of the Work Health and Safety Regulations, Australia.

Other hazards

No data available

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

This product is a mixture.

Component	CASRN	Concentration
Polypropylene glycol monobutyl ether	9003-13-8	> 65.0 - < 70.0 %
Fatty acids, C5-C10, esters with pentaerythritol	68424-31-7	> 25.0 - < 30.0 %
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	> 4.0 - < 6.0 %
Barium dinonyl-naphthalene sulfonate	25619-56-1	< 0.3 %

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

Hazchem Code

None Allocated

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Material will float on water. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Precautions for safe handling: No special precautions required. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability

Shelf life: Use within
5 year

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Barium dinonyl-naphthalene sulfonate	ACGIH	TWA	0.5 mg/m ³ , Barium
	AU OEL	TWA	0.5 mg/m ³ , Barium

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to AS/NZS 2161.10) is

recommended. **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

|| The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Other Information: Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Eye and face protection – Guidelines.

AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.

AS/NZS 2161: Occupational protective gloves.

AS/NZS 2210: Occupational protective footwear.

AS/NZS 4501: Occupational protective clothing Set

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid.
Color	Brown
Odor	Mild
Odor Threshold	No test data available
pH	8 - 10 <i>ASTM E70</i> (16% in water/methanol, 1:10)
Melting point/range	Not applicable to liquids
Freezing point	See Pour Point
Boiling point (760 mmHg)	> 200 °C <i>Calculated.</i>
Flash point	closed cup 210 °C <i>ASTM D 93</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 0.01 mmHg at 20 °C <i>ASTM E1719</i>
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	0.9901 at 25 °C / 25 °C <i>ASTM D891</i>

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Water solubility	< 1 g/L at 20 °C <i>Measured</i>
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	388 °C <i>ASTM E659</i>
Decomposition temperature	No test data available
Kinematic Viscosity	49.7 - 56.4 cSt at 37.8 °C <i>ASTM D 445</i>
Explosive properties	No data available
Oxidizing properties	No data available
Liquid Density	0.9872 g/cm ³ at 25 °C <i>ASTM D941</i>
Molecular weight	No test data available
Pour point	-28.9 °C <i>ASTM D97</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Hydrocarbons. Ketones. Organic acids. Polymer fragments.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

LD50, Rat, male, > 5,000 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

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At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found. As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Repeated contact may cause severe skin irritation with local redness and discomfort.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on information for component(s):

Based on available data, repeated exposures to small amounts are not anticipated to cause significant adverse effects.

Carcinogenicity

No specific, relevant data available for assessment.

Teratogenicity

No specific, relevant data available for assessment.

Reproductive toxicity

No specific, relevant data available for assessment.

Mutagenicity

No specific, relevant data available for assessment.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:**Polypropylene glycol monobutyl ether****Acute inhalation toxicity**

For similar material(s): Rat, 8 Hour, No deaths occurred following exposure to a saturated atmosphere.

Fatty acids, C5-C10, esters with pentaerythritol**Acute inhalation toxicity**

The LC50 has not been determined.

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene

Acute inhalation toxicity

As product: The LC50 has not been determined.

Barium dinonyl-naphthalene sulfonate**Acute inhalation toxicity**

LC50, Rat, 1 Hour, dust/mist, > 21 mg/l No deaths occurred at this concentration.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Ecotoxicity**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LL50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EL50, *Daphnia magna* (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Persistence and degradability

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

10-day Window: Pass

Biodegradation: 83 %

Exposure time: 29 d

Method: OECD Test Guideline 301A or Equivalent

10-day Window: Not applicable

Biodegradation: 81 %

Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 2.37 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	5 %
10 d	8 %
20 d	10 %
28 d	31 %

Bioaccumulative potential

Bioaccumulation: No specific, relevant data available for assessment.

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No specific, relevant data available for assessment.

Results of PBT and vPvB assessment

This mixture has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Other adverse effects

No specific, relevant data available for assessment.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. Where reuse or recycling are not appropriate, dispose of the product in an environmentally sound manner in accordance with relevant

SECTION 14: TRANSPORT INFORMATION

ADG

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

Hazchem Code

None Allocated

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

Poison Schedule

Not Scheduled

Australia Inventory of Chemical Substances (AICS)

All ingredients in this preparation are listed in the Australian Inventory of Chemical Substances, AICS, or are exempt.

Prohibition/Licensing Requirements : There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision

Identification Number: / A142 / Issue Date: 19.03.2019 / Version: 7.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
TWA	Exposure standard - time weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm;

NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

INGERSOLL RAND urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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