



SAFETY DATA SHEET

INGERSOLL RAND

Product name: Ingersoll Rand Techtrol Gold TL

Issue Date: 2020.03.06

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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.

1. IDENTIFICATION

Product name: Ingersoll Rand Techtrol Gold TL

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, quenchant, 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

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

Customer Information Number: +01 704-655-4000

EMERGENCY TELEPHONE NUMBER

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

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200
Not a hazardous substance or mixture.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Alcohol alkoxyate	Trade secret	>= 50.0 - <= 60.0 %
Polyalkylene glycol	Trade secret	>= 30.0 - <= 40.0 %
Pentaerythritol ester	Trade secret	>= 5.0 - <= 15.0 %
4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline	68411-46-1	>= 1.0 - <= 5.0 %

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. Suitable emergency safety shower facility should be available in work area.

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. Suitable emergency eye wash facility should be available in work area.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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.

5. FIREFIGHTING MEASURES

Extinguishing media

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: 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.. Do not use direct water stream. May spread fire.. 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).. If protective equipment is not available or not used, fight fire from a protected location or safe distance..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. 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. Keep upwind of spill. Keep unnecessary and unprotected personnel from entering the area.

Environmental precautions: 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.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes. Do not swallow. Wash thoroughly after handling. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

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. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). 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: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, 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 material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Colorless to yellow
Odor	mild
Odor Threshold	No test data available
pH	5.0 - 8.0 <i>DOWM 101495</i>
Melting point/range	No data available
Freezing point	No test data available
Boiling point (760 mmHg)	decomposes prior to boiling
Flash point	257 °C (495 °F) <i>Cleveland Open Cup ASTM D92</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	negligible
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	0.9353 at 25 °C (77 °F) <i>Measured</i>
Water solubility	insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	35.9 - 38.7 cSt at 40 °C (104 °F) <i>ASTM D7042</i>
Explosive properties	No test data available
Oxidizing properties	No test data available
Molecular weight	No data available

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

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..

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure

Ingestion, Inhalation, Skin contact, Eye contact.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 2,000 mg/kg Estimated.

Information for components:

Alcohol alkoxylate

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

Polyalkylene glycol

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

Pentaerythritol ester

For similar material(s): LD50, Rat, > 5,000 mg/kg

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

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

Acute dermal toxicity

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

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 2,000 mg/kg Estimated.

Information for components:

Alcohol alkoxylate

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

Polyalkylene glycol

The dermal LD50 has not been determined.

Based on information for a similar material: LD50, Rat, > 2,000 mg/kg Estimated. No deaths occurred at this concentration.

Pentaerythritol ester

Based on information for a similar material: LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.

As product: The LC50 has not been determined.

Information for components:

Alcohol alkoxyate

As product: The LC50 has not been determined.

Polyalkylene glycol

As product: The LC50 has not been determined.

Pentaerythritol ester

The LC50 has not been determined.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Information for components:

Alcohol alkoxyate

Brief contact may cause slight skin irritation with local redness.

Polyalkylene glycol

Brief contact may cause slight skin irritation with local redness.

Pentaerythritol ester

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause slight skin irritation with local redness.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

May cause slight temporary corneal injury.

Information for components:

Alcohol alkoxylate

May cause slight temporary eye irritation.
Corneal injury is unlikely.

Polyalkylene glycol

May cause slight eye irritation.
May cause slight temporary corneal injury.

Pentaerythritol ester

May cause slight eye irritation.
Corneal injury is unlikely.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

Essentially nonirritating to eyes.

Sensitization

Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No specific, relevant data available for assessment.

Information for components:

Alcohol alkoxylate

For skin sensitization:
No relevant data found.

For respiratory sensitization:

No relevant data found.

Polyalkylene glycol

For skin sensitization:
No relevant data found.

For respiratory sensitization:

No relevant data found.

Pentaerythritol ester

For skin sensitization:
No relevant data found.

For respiratory sensitization:

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

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.

Information for components:

Alcohol alkoxylate

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

Polyalkylene glycol

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

Pentaerythritol ester

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

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

Available data are inadequate to determine single exposure specific target organ toxicity.

Aspiration Hazard

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

Information for components:

Alcohol alkoxylate

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

Polyalkylene glycol

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

Pentaerythritol ester

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

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

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

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No specific, relevant data available for assessment.

Information for components:

Alcohol alkoxylate

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

Polyalkylene glycol

No relevant data found.

Pentaerythritol ester

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

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

Carcinogenicity

No specific, relevant data available for assessment.

Information for components:

Alcohol alkoxylate

No relevant data found.

Polyalkylene glycol

No relevant data found.

Pentaerythritol ester

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

No relevant data found.

Teratogenicity

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

Information for components:

Alcohol alkoxylate

No relevant data found.

Polyalkylene glycol

No relevant data found.

Pentaerythritol ester

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

Contains component(s) which did not interfere with fertility in animal studies.

Information for components:

Alcohol alkoxylate

No relevant data found.

Polyalkylene glycol

No relevant data found.

Pentaerythritol ester

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

In animal studies, did not interfere with fertility.

Mutagenicity

In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity studies in animals were negative for component(s) tested.

Information for components:**Alcohol alkoxyate**

In vitro genetic toxicity studies were negative.

Polyalkylene glycol

No relevant data found.

Pentaerythritol ester

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

For similar material(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

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

Toxicity**Alcohol alkoxyate****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).

LC50, Oncorhynchus mykiss (rainbow trout), Static, 96 Hour, > 105 mg/l

Acute toxicity to aquatic invertebrates

EL50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), Static, 72 Hour, Growth rate inhibition, > 100 mg/l

Polyalkylene glycol**Acute toxicity to fish**

Based on information for a similar material:

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).

Pentaerythritol ester**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).

LC50, Rainbow trout (Oncorhynchus mykiss), semi-static test, 96 Hour, > 1,000 mg/l

Acute toxicity to aquatic invertebrates

Based on information for a similar material:

EL50, Daphnia magna, Static, 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants

Based on information for a similar material:

EL50, Scenedesmus capricornutum (fresh water algae), Static, 72 Hour, Growth rate inhibition, > 1,000 mg/l, OECD Test Guideline 201

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 71 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 51 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Desmodesmus subspicatus (green algae), Static, 72 Hour, Growth rate, > 100 mg/l, OECD Test Guideline 201

NOEC, Desmodesmus subspicatus (green algae), Static, 72 Hour, Growth rate, > 10 mg/l, OECD Test Guideline 201

Toxicity to bacteria

IC50, activated sludge, Static, 3 Hour, Respiration rates., > 100 mg/l, OECD Test Guideline 209

Persistence and degradability

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Not applicable

Biodegradation: 71.5 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

Bioaccumulative potential

Alcohol alkoxyate

Bioaccumulation: No relevant data found.

Polyalkylene glycol

Bioaccumulation: No data available for this product. No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Pentaerythritol ester

Bioaccumulation: No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

Partition coefficient: n-octanol/water(log Pow): > 7 Estimated.

Mobility in soil

Alcohol alkoxyate

No relevant data found.

Polyalkylene glycol

No data available.

Pentaerythritol ester

No relevant data found.

4-(2,2,3-trimethylbut-3-enyl)-N-[4-(2,2,3-trimethylbut-3-enyl)phenyl]aniline

No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. 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: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

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

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.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

No SARA Hazards

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Prop. 65

This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the SDS or label.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Flammability	Instability
1	1	0

Revision

Identification Number: / A001 / Issue Date: 11/14/2019 / Version: 3.0

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

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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.

US