SAFETY DATA SHEET

Preparation Date: 5/11/2015 **Revision Date:** 8/06/2015 **Revision Number:** G1

1. IDENTIFICATION

Product identifier

Product code: TR135
Product Name: TRITON(R) X-100

Other means of identification

Synonyms: Polyethylene glycol octylphenyl ether; Poly(oxy-1,2-ethanediyl),.alpha.-[(1,1,3,3-tetramethylbutyl)phenyl].omega.-hydroxy-glycols, polyethylene, mono[(1,1,3,3-tetramethylbutyl)phenyl]ether
CAS #: 9036-19-5
RTECS # MD0907700
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000
Order Online At: https://www.spectrumchemical.com

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2

Label elements

Warning

Hazard statements
Harmful if swallowed
Causes serious eye irritation

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye/face protection

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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Polyethylene glycol octylphenyl ether 9036-19-5	9036-19-5	>=97	*
Polyethylene Glycol 25322-68-3	25322-68-3	<=3	*
1,4-Dioxane 123-91-1	123-91-1	>0.0005<0.1	*

4. FIRST AID MEASURES

First aid measures

General Advice: Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye irritation. Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon monoxide; Carbon dioxide

Specific hazards: May be combustible at high temperatures
May be ignited by heat, sparks or flames
Container explosion may occur under fire conditions or when heated

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Absorb spill with inert material (e.g. vermiculite, dry sand or earth). Use appropriate tools to put the spilled material in a suitable chemical waste disposal container.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:
Acids. Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Polyethylene glycol octylphenyl ether 9036-19-5	None	None	None	None
Polyethylene Glycol 25322-68-3	None	None	None	10 mg/m^3 TWA
1,4-Dioxane 123-91-1	100 ppm TWA 360 mg/m^3 TWA	1 ppm Ceiling 30 min 3.6 mg/m^3 Ceiling 30 min	20 ppm TWA	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Polyethylene glycol octylphenyl ether 9036-19-5	None	None	None	None
Polyethylene Glycol 25322-68-3	None	None	None	None
1,4-Dioxane 123-91-1	20 ppm TWA 72 mg/m^3 TWA	20 ppm TWA	20 ppm TWA	20 ppm TWAEV 72 mg/m^3 TWAEV

Australia and Mexico

Components	Australia	Mexico
Polyethylene glycol octylphenyl ether 9036-19-5	None	None
Polyethylene Glycol 25322-68-3	None	None
1,4-Dioxane 123-91-1	10 ppm TWA 36 mg/m^{3}tWA	25 ppm TWA 90 mg/m^3 TWA 100 ppm STEL 360 mg/m^3 STEL

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Chemical resistant apron. Gloves. Long sleeved clothing.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent. .

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
No information available

Color:
Clear. Colorless to pale yellow.

Odor:
Odorless.

Taste
No information available

Molecular/Formula weight:
No information available

Formula:
No information available

Flammability:
No information available

Flash point (°C):
No data available

Flashpoint (°C/°F):
Closed Cup: 251°C/483.8°F; Open Cup: 290°C/554°F

Flash Point Tested according to:
Not available

Lower Explosion Limit (%):
No information available

Autoignition Temperature (°C/°F):
No information available

Upper Explosion Limit (%):
No information available

pH:
No information available

Melting point/range(°C/°F):
Pour point = 2°-6°C/35.6°-43°F

Boiling point/range(°C/°F):
>200 °C/392 °F

Decomposition temperature(°C/°F):
No information available

Bulk density:
No information available

Specific gravity:
1.06-1.07

Vapor pressure @ 20°C (kPa):
<0

Density (g/cm3):
No information available

Evaporation rate:
No information available

Vapor density:
>1

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

Partition coefficient (n-octanol/water):
No information available

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Soluble in cold water
Soluble in hot water
Insoluble in Kerosene
Insoluble in mineral spirits

10. STABILITY AND REACTIVITY

Reactivity
Reactive with acids
Reactive with oxidizing agents

Chemical stability
Stability: Stable under recommended storage conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Acids. Oxidizing agents.

Hazardous decomposition products: Carbon oxides.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Ingestion. Skin.

Acute Toxicity

Component Information

Polyethylene glycol octylphenyl ether - 9036-19-5
LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = No information available

Polyethylene Glycol - 25322-68-3
LD50/oral/rat = = 22 g/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = No information available

1,4-Dioxane - 123-91-1
LD50/oral/rat = = 5170 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = 7600 µL/kg Dermal LD50Rabbit
LC50/inhalation/rat = 46 g/m^3 Inhalation LC50 Rat 2 h
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 1800mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = >3000mg/kg

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available

VALUE - Dust/Mist = No information available
Symptoms

Skin Contact: May cause skin irritation. It may be absorbed through the skin. However, it is unlikely to result in absorption of harmful amounts.

Eye Contact: Causes serious eye irritation. Causes moderate to severe eye irritation.

Inhalation May cause irritation of respiratory tract. At room temperature, exposure to vapor is minimal due to low volatility and vapor pressure. If it is misted, the mist may cause irritation of the upper respiratory tract (nose and throat).

Ingestion Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated skin contact may cause moderate skin irritation with local redness.

Sensitization: No information available

Mutagenic Effects: May affect genetic material

Carcinogenic effects: The product may contain trace amounts of 1,4-dioxane which can cause cancer.

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Polyethylene glycol octylphenyl ether	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Polyethylene Glycol	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

1,4-Dioxane	Group 2 B (Possibly Carcinogenic to Humans) - Monograph 71 [1999] Supplement 7 [1987] Monograph 11 [1976]	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Reasonably Anticipated To Be A Human Carcinogen	Present	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

1,4-Dioxane - 123-91-1
Freshwater Fish Species Data: 10306 - 14742 mg/L LC50 Pimephales promelas 96 h static 1
9850 mg/L LC50 Pimephales promelas 96 h 1
9850 mg/L LC50 Pimephales promelas 96 h flow-through 1
10000 mg/L LC50 Lepomis macrochirus 96 h semi-static 1
10000 mg/L LC50 Lepomis macrochirus 96 h static 1
Water Flea Data: 163 mg/L EC50 water flea 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Polyethylene glycol octylphenyl ether	None	None	None	None
Polyethylene Glycol	None	None	None	None

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
1,4-Dioxane	None	None	None	U108

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: None
ERG No: No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant No information available
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: No information available

ICAO

14. TRANSPORT INFORMATION

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Polyethylene glycol octylphenyl ether	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present
Polyethylene Glycol	Present XU	Present KE-20228	Present	Present (8)-429 (7)-129 (2)-441	Not present	Present	Not present
1,4-Dioxane	Present	Present KE-10463	Present	Present (5)-839	Present	Present	Present 204-661-8

U.S. Regulations

Polyethylene Glycol

Minnesota - Hazardous Substance List: Present

FDA - Direct Food Additives 21 CFR 172.210 21 CFR 172.820 21 CFR 173.310 21 CFR 173.340

FDA - 21 CFR - Total Food Additives 172.210 172.820 173.310 173.340 175.105 175.300 176.180 178.3750 73.1

1,4-Dioxane

Massachusetts RTK: Present
Massachusetts EHS: carcinogen; extraordinarily hazardous
New Jersey RTK Hazardous Substance List: 0789
New Jersey (EHS) List: 0789 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Special hazardous substance
Pennsylvania RTK - Environmental Hazard List Present
Pennsylvania RTK - Special Hazardous Substances Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
100 lb RQ
1 lb RQ
Louisana Reportable Quantity List for Pollutants: 100lbfinal RQ
45.4kgfinal RQ
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Polyethylene glycol octylphenyl ether	Not Listed	Not Listed	Not Listed	Not Listed
Polyethylene Glycol	Not Listed	Not Listed	Not Listed	Not Listed

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
1,4-Dioxane	carcinogen	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting *de minimis*
Polyethylene glycol octylphenyl ether	None	None	None	None	None
Polyethylene Glycol	None	None	None	None	None
1,4-Dioxane	100 lb final RQ 45.4 kg final RQ	None	None	None	0.1 % de minimis concentration

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Polyethylene glycol octylphenyl ether	Not Applicable	Not Applicable
Polyethylene Glycol	Not Applicable	Not Applicable
1,4-Dioxane	Not Applicable	Not Applicable

Canada

WHMIS hazard class:
D2B Toxic materials

1,4-Dioxane
B2 D2A D2B

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
1,4-Dioxane	0.1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Polyethylene glycol octylphenyl ether	Not Listed	Not Listed
Polyethylene Glycol	Present	Not Listed
1,4-Dioxane	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting
Polyethylene glycol octylphenyl ether	Not listed	Not listed
Polyethylene Glycol	Not listed	Not listed
1,4-Dioxane	Not listed	Not listed

EU Classification

R-phrase(s)
R22 - Harmful if swallowed.
R36 - Irritating to eyes.

S -phrase(s)
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	Classification	Concentration Limits:	Safety Phrases
Polyethylene glycol octylphenyl ether		No information	
Polyethylene Glycol		No information	
1,4-Dioxane	Carc. Cat.3;R40 F;R11-19 R66 Xi;R36/37	No information	S(2)-S16-S36/37

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
Xi - Irritant.
Xn - Harmful.

16. OTHER INFORMATION

16. OTHER INFORMATION

Preparation Date: 5/11/2015
Revision Date: 8/06/2015
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet