

Safety Data Sheet

Version 3.0

Revision Date 02/04/2016

SDS Number 300000021379

Print Date 02/05/2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TOMADYNE™ 102 SURFACTANT

Product Use Description : Surfactant

Manufacturer/Importer/Distributor : Air Products and Chemicals, Inc
7201 Hamilton Blvd.
Allentown, PA 18195-1501
GST No. 123600835 RT0001
QST No. 102753981 TQ0001

Telephone : 1-610-481-4911 Corporate
1-800-345-3148 Chemicals Cust Serv
1-800-752-1597 Gases/Electronics Cust Serv

Emergency telephone number (24h) : 800-523-9374 USA
+1 610 481 7711 International

2. HAZARDS IDENTIFICATION

GHS classification

Acute toxicity - Oral Category 4
Serious Eye Damage - Category 1

GHS label elements

Hazard pictograms/symbols



Signal Word: Danger

Hazard Statements:

H302:Harmful if swallowed.
H318:Causes serious eye damage.

Precautionary Statements:

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- Prevention : P264:Wash hands thoroughly after handling.
P270:Do not eat, drink or smoke when using this product.
P280:Wear eye protection/face protection.
- Response : P301+P312 :IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 :Immediately call a POISON CENTRE/doctor.
P330 :Rinse mouth.
- Disposal : P501:Disposal of contents/container to be specified in accordance with regulations.

20 % of mixture consists of ingredients of unknown acute toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Propylene glycol	57-55-6	5% - 10 %
Water	7732-18-5	9% - 10 %
Poly(oxy-1,2-ethanediyl), a-undecyl-w-hydroxy-	34398-01-1	50% - 70 %
Poly(oxy-1,2-ethanediyl), a,a'-[[[3-(decyloxy)propyl]methyliminio]di-2,1-ethanediyl]bis[w-hydroxy-, branched, chlorides	68478-94-4	10% - 20 %

CHEMICAL FAMILY: Surfactant Blend.

4. FIRST AID MEASURES

- General advice : Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
- Eye contact : Rinse immediately with plenty of water for at least 15 minutes.
- Skin contact : Wash with water and soap as a precaution.
- Ingestion : Prevent aspiration of vomit. Turn victim's head to the side.
- Inhalation : Move to fresh air.
- Inhalation : No data available.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO2).

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Dry chemical.
Dry sand.
Limestone powder.

- Specific hazards : Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases.
- Special protective equipment for fire-fighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions, Protective Equipment, and Emergency Procedures : Evacuate personnel to safe areas.
- Environmental precautions : Construct a dike to prevent spreading.
- Methods for cleaning up : Place in appropriate chemical waste container.
- Additional advice : If possible, stop flow of product.

7. HANDLING AND STORAGE

Handling

Overheating of a quaternary amine for prolonged periods above 180 F (82.22 C) can cause product to degrade. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage

Keep away from direct sunlight. Do not store near acids. Overheating of an ethoxylate stored under air should be avoided. When an ethoxylate is vigorously mixed in the presence of air or oxygen at temperatures >125 F (50 C), it can degrade product quality. Storage under an inert atmosphere is recommended.

Storage Temperature : < 120 °F (< 48.9 °C)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Provide readily accessible eye wash stations and safety showers.
Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Personal protective equipment

- Respiratory protection : Not required for properly ventilated areas.
- Hand protection : Butyl-rubber

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Nitrile rubber.
Neoprene gloves.
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Chemical safety glasses.

Skin and body protection : No specific recommendation.

Special instructions for protection and hygiene : Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers.

Exposure limit(s)

Propylene glycol	Time Weighted Average (TWA): WEEL	-	10 mg/m3
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid. Amber.

Odor : Mild.

Odor threshold : No data available.

pH : 6

Melting point/range : No data available.

Boiling point/range : > 1,711 °F (> 93,3 °C)

Flash point : > 200 °F (> 93.3 °C)

Evaporation rate : No data available.

Flammability (solid, gas) : Not applicable.

Upper/lower explosion/flammability limit : Not applicable.

Vapor pressure : No data available.

Water solubility : Completely soluble.

Relative vapor density : Not applicable.

Relative density : 1.003

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Partition coefficient (n-octanol/water)	: No data available.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity	: 95 mPa.s at 74 °F (23.3 °C)
Molecular Weight	: No data available.

10. STABILITY AND REACTIVITY

Chemical Stability	: Stable under normal conditions.
Conditions to avoid	: No data available.
Materials to avoid	: Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Dehydrating Agents. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Copper alloys Strong acids.
Hazardous decomposition products	: Nitric acid. Ammonia Nitrogen oxides (NOx). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO2). Aldehydes Flammable hydrocarbon fragments. Carbon oxides. Under lean oxygen conditions and temperatures above 180F, hydrochloric acid, amides, and low molecular weight hydrocarbons can be produced.
Possibility of hazardous Reactions/Reactivity	: No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Likely routes of exposure

Acute toxicity

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Acute Oral Toxicity : No data is available on the product itself.

Acute Oral Toxicity - Components

Propylene glycol	LD50 : 21,000 mg/kg	Species : Rat.
Poly(oxy-1,2-ethanediyl), a-undecyl-w-hydroxy-	LD50 : > 1,400 mg/kg	Species : Rat.

Inhalation : No data is available on the product itself.

Inhalation - Components

Propylene glycol	LC50 (8 h) : > 105 ppm	Species : Rat.
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Acute Dermal Toxicity : No data is available on the product itself.

Acute Dermal Toxicity - Components

Propylene glycol	LD50 : 20,800 mg/kg	Species : Rabbit.
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Skin corrosion/irritation : Skin irritation.

Serious eye damage/eye irritation : Eye irritation.

Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure) : No data available.

Aspiration hazard : No data available.

Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater.

12. ECOLOGICAL INFORMATION

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Ecotoxicity effects

Aquatic toxicity : No data is available on the product itself.

Toxicity to fish - Components

Propylene glycol

LC50 (96 h) : 55,770 mg/l

Species : Fathead minnow (*Pimephales promelas*).

Poly(oxy-1,2-ethanediyl), a-undecyl-w-hydroxy-

LC50 (96 h) : 1 - 10 mg/l

Species : Fathead minnow (*Pimephales promelas*).

Toxicity to daphnia - Components

Propylene glycol

EC50 (48 h) : > 10,000 mg/l

Species : Daphnia

Poly(oxy-1,2-ethanediyl), a-undecyl-w-hydroxy-

EC50 (48 h) : 1 - 10 mg/l

Species : Daphnia magna.

Toxicity to algae - Components

Poly(oxy-1,2-ethanediyl), a-undecyl-w-hydroxy-

EC50 (96 h) : 1 - 10 mg/l

Species : Algae.

Toxicity to other organisms : No data available.

Persistence and degradability

Biodegradability

: This surfactant is biodegradable according to the criteria laid down in Annex III of Regulation (EC) No.648/2004 on detergents.

Mobility

: No data available.

Bioaccumulation

: No data is available on the product itself.

Bioaccumulation - Components

Propylene glycol

Negligible bioaccumulation potential.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products

: Contact supplier if guidance is required.

Contaminated packaging

: Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. TRANSPORT INFORMATION

DOT

Not dangerous goods

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IATA

Not dangerous goods

IMDG

Not dangerous goods

TDG

Not dangerous goods

Further Information

Not classified as dangerous in the meaning of transport regulations. The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Component(s):

None.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Not on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Not on Inventory.
South Korea	ECL	Not on Inventory.
China	SEPA	Air Products has received a polymer exemption from the Chinese government to import, manufacture or use.
Philippines	PICCS	Not on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification
Acute Health Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level
None.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

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WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
Chloromethane

16. OTHER INFORMATION

HMIS Rating

Health : 2
Flammability : 1
Physical hazard : 0

REVISION NOTES : 15. REGULATORY INFORMATION

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

Telephone : 1-610-481-4911 Corporate
1-800-345-3148 Chemicals Cust Serv
1-800-752-1597 Gases/Electronics Cust Serv

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For additional information, please visit our Product Stewardship web site at
<http://www.airproducts.com/productstewardship/>