SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: SURFYNOL 104 DPM

Chemical name:
Acetylenic Diol

Other means of identification

Recommended restrictions

Recommended use: Surfactant
Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name	:	Evonik Corporation 299 Jefferson Road Parsippany, NJ 07054 USA
Telephone	:	+1 973 929 8000
Fax	:	+1 973 929 8042
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) +1 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4

Health Hazards

Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Combustible liquid.
May cause an allergic skin reaction.
Causes serious eye damage.

Precautionary Statements

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/eye protection/face protection.

Response: IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage: Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
Acetylenic Diol

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3	50%
(2-Methoxymethylethoxy)propanol	34590-94-8	50%

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

Composition Comments: Acetylenic Diol.
The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information: Seek medical advice. If breathing is irregular or stopped, administer artificial respiration.

Inhalation: Move to fresh air.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Wash with soap and water. Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water.

Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Rinse immediately with plenty of water for at least 15 minutes.
Ingestion:	Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.
Personal Protection for First-aid Responders:	Use personal protective equipment., Wear self-contained breathing apparatus for firefighting if necessary.

Most important symptoms/effects, acute and delayed

Symptoms:	Up to now no symptoms are known.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Alcohol resistant foam. Carbon Dioxide. Dry chemical. Dry sand. Limestone powder
Unsuitable extinguishing media:	No data available.
Specific hazards arising from the chemical:	Incomplete combustion may form carbon monoxide. Burning produces noxious and toxic fumes. In the event of fire, cool tanks with water spray. Downwind personnel must be evacuated. Fire or intense heat may cause violent rupture of packages. May form explosive mixtures in air.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Remove sources of ignition. Evacuate personnel to safe areas.
Accidental release measures:	If possible, stop flow of product.
Methods and material for containment and cleaning up:	Call Emergency Response number for advice. Approach suspected leak areas with caution. Absorb with inert absorbent materials such as: Dry sand. Vermiculite. Activated charcoal. Place in appropriate chemical waste container.
Environmental Precautions:	Shut off or remove all ignition sources. Construct a dike to prevent spreading.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Apply process controls to ensure safe operating conditions. Assess potential flammability hazards based on flashpoint and potential ignition sources. Ensure adequate ventilation.Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Safe handling advice: Wash hands at the end of each workshift and before eating, smoking or using the toilet.Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes.Use personal protective equipment.See "Flammable and Combustible Liquid Code" NFPA No. 30, National Fire Protection Association, Boston, MA.

Contact avoidance measures: No data available.

Hygiene measures: Provide readily accessible eye wash stations and safety showers.

Storage

Safe storage conditions: Keep away from open flames, hot surfaces and sources of ignition.Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep in a dry, cool place. Keep away from oxidizers.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
(2-Methoxymethylethoxy)propanol	TWA	100 ppm	US. ACGIH Threshold Limit Values (03 2016)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (03 2016)
	REL	100 ppm 600 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	100 ppm 600 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
	IDLH	600 ppm	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values (10 2017)
	AN ESL	50 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	AN ESL	310 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	ST ESL	3,100 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	ST ESL	500 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)

Hazardous components without workplace control parameters

Exposure guidelines

(2-Methoxymethylethoxy) propanol	US. ACGIH Threshold Limit Values	Can be absorbed through the skin.

Appropriate Engineering Controls Apply process controls to ensure safe operating conditions. Assess potential flammability hazards based on flashpoint and potential ignition sources. Ensure adequate ventilation. Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection: Chemical resistant goggles must be worn.

Skin Protection

Hand Protection: Additional Information: Neoprene gloves, Nitrile rubber.Additional Information: 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.

Skin and Body Protection: Long sleeve shirts and trousers without cuffs. No specific recommendations.

Respiratory Protection: No personal respiratory protective equipment normally required. Not required for properly ventilated areas.

Hygiene measures: Provide readily accessible eye wash stations and safety showers.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	light yellow
Odor:	Menthol.
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	212 °C
Flash Point:	89 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	2.128 hPa (21 °C)
Vapor density (air=1):	No data available.
Density:	0.93 g/cm3 (21 °C)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.

Kinematic viscosity:	No data available.
Dynamic viscosity:	No data available.

Other information

Explosive properties:	No data available.
Oxidizing properties:	No data available.
Minimum ignition temperature:	No data available.
Metal Corrosion:	No data available.

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions"
Chemical Stability:	Stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, flames and sparks.
Incompatible Materials:	Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Dehydrating Agents. Oxidizing agents.
Hazardous Decomposition Products:	Carbon Monoxide. Carbon Dioxide. Aldehydes. Flammable hydrocarbon fragments. Heating above 65 °C in the presence of strong base can liberate flammable hydrocarbon fragments. Carbon oxides

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	Acute toxicity estimate: > 2,000 mg/kg

Dermal

Product:	LD 50 (Rabbit): > 2,000 mg/kg

Inhalation

Product:	No data available.

Repeated dose toxicity
Product: A similar material has caused mild liver toxicity . Repeated exposure increases liver weights in animals.

Skin Corrosion/Irritation
Product: Mildly Irritating
Irritation data based on estimates.

Serious Eye Damage/Eye Irritation
Product: Severe eye irritation

Respiratory or Skin Sensitization
Product: Component of this product has been found to cause mild skin sensitization in a Local Lymph Node Assay (LLNA).

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

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

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	LC 50 (Cyprinus carpio (Carp), 24 h): 42 mg/l LC 50 (Pimephales promelas (fathead minnow), 96 h): 36 mg/l LC 50 (Cyprinus carpio (Carp), 96 h): 42 mg/l LC 50 (Scophtalmus maximus (turbot), 96 h): 43 mg/l
(2-Methoxymethylethoxy)propanol	LC 50 (Poecilia reticulata (guppy), 96 h): > 1,000 mg/l

Aquatic Invertebrates

Product:	No data available.
Components:	
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	EC 50 (Daphnia magna (Water flea), 48 h): 91 mg/l LC 50 (Acartia tonsa, 48 h): 166 mg/l

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	EC 50 (Pseudokirchneriella subcapitata (green algae), 72 h): 82 mg/l EC 50 (Skeletonema costatum (marine diatom), 72 h): 112 mg/l

Persistence and Degradability

Biodegradation

Product:	No data available.
Components:	
(2-Methoxymethylethoxy)propanol	75 % (28 d, OECD TG 301 F)

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.

Partition Coefficient n-octanol / water (log Kow)

Product:	Log Kow: No data available.

Mobility in soil: No data available.

Components:

2,4,7,9-Tetramethyldec-5-yne-4,7-diol	No data available.
(2-Methoxymethylethoxy)propanol	No data available.

Other adverse effects: Do not allow to enter soil, waterways or waste water canal.

13. Disposal considerations

Disposal methods: 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

Domestic regulation

49 CFR

UN/ID/NA number	:	NA 1993
Proper shipping name	:	Combustible liquid, n.o.s. (Methoxymethylethoxypropanol, 2-)
Class	:	CBL
Packing group	:	III
Labels	:	NONE
ERG Code	:	128
Marine pollutant	:	no
Remarks	:	Not regulated in packages 450 liter or less.

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

Remarks	:	Not hazardous freight in air traffic (ICAO-TI / IATA-DGR).

IMDG-Code

Not regulated as a dangerous good

Remarks	:	Not classified as hazardous sea cargo (IMDG code)FOR USA ONLY: In packagings exceeding 450 L, this product must be classified, placarded, marked and shipped as Combustible Liquid to the USA.

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

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
4-Methylpentan-2-one	Irritant

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
4-Methylpentan-2-one	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids), Serious eye damage or eye irritation, Respiratory or Skin Sensitization

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING: This product can expose you to chemicals including, 4-Methylpentan-2-one, which is [are] known to the State of California to cause cancer and birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
(2-Methoxymethylethoxy)propanol

US. Massachusetts RTK - Substance List

Chemical Identity
(2-Methoxymethylethoxy)propanol

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
(2-Methoxymethylethoxy)propanol

US. Rhode Island RTK

Chemical Identity
(2-Methoxymethylethoxy)propanol

Inventory Status:

US TSCA Inventory:	Included on Inventory.
Canada DSL Inventory List:	Included on Inventory.

16.Other information, including date of preparation or last revision

HMIS Hazard ID

Health		2
Flammability		2
Physical Hazards		0
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

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Revision Information:	Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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