Safety Data Sheet

Cat. # BAQ088

Oil Red O (lipid Stain) Kit

Size: 500ml

Absolute propylene glycol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/08/2019 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Absolute propylene glycol
Chemical name	:	1,2-Propanediol
CAS-No.	:	57-55-6
Product code	:	005A
Formula	:	C3H8O2
Synonyms	:	1,2-dihydroxypropane / 1,2-propanediol / 1,2-propylene glycol / 2,3-propanediol / alpha-propylene glycol / DOWFROST / methyl ethylene glycol / methylethyl glycol / monopropylene glycol / MPG (=monopropylene glycol) / PG 12 / propane-1,2-diol / propylene glycol / SIRLENE / SOLAR WINTER BAN / SOLARGARD P / trimethyl glycol / UCAR 35
BIG No	:	10375

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Anti-freezing agent Solvent

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
Absolute propylene glycol (Main constituent)	1,2-dihydroxypropane / 1,2-propanediol / 1,2-propylene glycol / 2,3-propanediol / alpha-propylene glycol / DOWFROST / methyl ethylene glycol / methylethyl glycol / monopropylene glycol / MPG (=monopropylene glycol) / PG 12 / propane-1,2-diol / propylene glycol / SIRLENE / SOLAR WINTER BAN / SOLARGARD P / trimethyl glycol / UCAR 35	(CAS-No.) 57-55-6	100	Not classified

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Alcohol consumption increases the toxicity.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to skin. Not irritant to eyes.

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Feeling of weakness.

Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Dry skin.

Symptoms/effects after eye contact : Redness of the eye tissue.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea. Abdominal pain.

Chronic symptoms : Change in the haemogramme/blood composition. Decreased renal function.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.

Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Combustible. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing.

Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released product, pump into suitable containers. Plug the leak, cut off the supply.
Methods for cleaning up	:	Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Use earthed equipment. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed.
Hygiene measures	:	Observe normal hygiene standards.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store in a well-ventilated place. Keep cool.
Heat-ignition	:	KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage	:	KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. water/moisture.
Storage area	:	Store in a cool area. Store in a dry area. Store at ambient temperature. Keep out of direct sunlight. Ventilation at floor level. Provide the tank with earthing. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: closing. clean. dry. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: stainless steel. carbon steel. aluminium. copper. bronze. nickel. steel with plastic inner lining.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Absolute propylene glycol (57-55-6)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: nitrile rubber. GIVE GOOD RESISTANCE: butyl rubber. natural rubber. polyethylene. PVC. polyethylene/ethylenevinylalcohol. neoprene

Hand protection:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	Colourless
Odor	:	Almost odourless
Odor threshold	:	No data available
pH	:	6.5 - 7.5 (50 %)
Melting point	:	< -20 °C (1013.25 hPa, EU Method A.1: Melting/freezing point)
Freezing point	:	No data available
Boiling point	:	184 °C (1003 hPa, EU Method A.2: Boiling point)
Critical temperature	:	352 °C
Flash point	:	104 °C (Closed cup, 1000 hPa, EU Method A.9: Flash-Point)
Relative evaporation rate (butyl acetate=1)	:	< 0.1
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	20 hPa (25 °C, EU Method A.4: Vapour Pressure)
Relative vapor density at 20 °C	:	2.6
Relative density	:	1.03 (20 °C, EU Method A.3: Relative Density)
Relative density of saturated gas/air mixture	:	1
Specific gravity / density	:	1038 kg/m³
Molecular mass	:	76.1 g/mol
Solubility	:	Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in 1,4-dioxane. Soluble in pine oil. Water: 100 vol % (20 °C, EU Method A.6: Water solubility) Ethanol: complete Ether: 12 g/100ml Acetone: complete
Log Pow	:	-1.07 (Experimental value, EU Method A.8: Partition Coefficient, 20.5 °C)
Auto-ignition temperature	:	> 400 °C (1000 - 1001 hPa, EU Method A.15: Auto-ignition Temperature (liquids and gases))
Decomposition temperature	:	No data available
Viscosity, kinematic	:	41.84 mm²/s
Viscosity, dynamic	:	43.43 mPa·s (25 °C)
Explosion limits	:	2.60 - 12.60 vol % 80 - 400 g/m³ Lower explosive limit (LEL): 2.6 vol % UEL: 12.6 vol %
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Specific conductivity	:	4.4 µS/m
Saturation concentration	:	0.54 g/m³
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) oxidizers: (increased) risk of fire. Violent to explosive reaction with (strong) acids.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Absolute propylene glycol (57-55-6)	
LD50 oral rat	22000 mg/kg (Rat, Experimental value, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (24 h, Rabbit, Experimental value, Dermal, 14 day(s))
ATE US (oral)	22000 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 6.5 - 7.5 (50 %)

Serious eye damage/irritation : Not classified
pH: 6.5 - 7.5 (50 %)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : 41.84 mm²/s

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to skin. Not irritant to eyes.

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Feeling of weakness.

Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Dry skin.

Symptoms/effects after eye contact : Redness of the eye tissue.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea. Abdominal pain.

Chronic symptoms : Change in the haemogramme/blood composition. Decreased renal function.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photolysis in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Not harmful to algae. Not harmful to bacteria.

Absolute propylene glycol (57-55-6)	
LC50 fish 1	51600 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Experimental value)
LC50 fish 2	40613 mg/l (Other, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value)
ErC50 (algae)	24200 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

Absolute propylene glycol (57-55-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.96 - 1.08 g O_2/g substance
Chemical oxygen demand (COD)	1.63 g O_2/g substance
ThOD	1.69 g O_2/g substance

12.3. Bioaccumulative potential

Absolute propylene glycol (57-55-6)	
BCF other aquatic organisms 1	0.09
Log Pow	-1.07 (Experimental value, EU Method A.8: Partition Coefficient, 20.5 °C)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Absolute propylene glycol (57-55-6)	
Surface tension	71.6 mN/m (21.5 °C, 1.01 g/l, EU Method A.5: Surface tension)
Log Koc	0.46 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Absolute propylene glycol (57-55-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Absolute propylene glycol (57-55-6)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

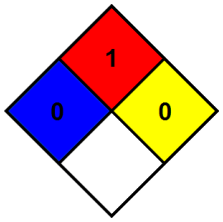
SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Mayer's hematoxylin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/08/2019 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : Mayer's hematoxylin

Product code : 324M

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
chloral, hydrate	1,1,1-trichloro-2,2-dihydroxyethane / 1,1,1-trichloro-2,2-ethanediol / 1,1-ethanediol, 2,2,2-trichloro- / 2,2,2-trichloro-1,1-ethanediol / 2,2,2-trichloroethane-1,1-diol / aquachloral / BI 3411 / chloral hydrate / chloral, hydrated / chloral, monohydrate / chloraldural / chloraldurat / chloralex / chlorali hydras / chloralvan / dormal / escre / felsules / HS / hydral / hydras chlorali / kessodrate / knockout drops / lorinal / noctec / nortec / novochlor, hydrate / nycoton / nycton / phaldrone / rectules / SK-chloral, hydrate / somni sed / somnos / sontec / tosyl / trawotox / trichloroacetaldehyde, hydrate / trichloroacetaldehyde, hydrated / trichloroacetaldehyde, monohydrate / trichloroethylidene glycol	(CAS-No.) 302-17-0	5 - 10	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 1B, H350

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
aluminium ammonium sulfate, dodecahydrate	alum ammonia, dodecahydrate / aluminium ammonium bis(sulfate), dodecahydrate / aluminium ammonium bis(sulphate), dodecahydrate / ammonia alum, dodecahydrate / ammonium alum, dodecahydrate / ammonium aluminium sulfate, dodecahydrate	(CAS-No.) 7784-26-1	5 - 10	Eye Irrit. 2, H319
hematoxylin	7,11b-dihydrobenz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol / 7,11b-dihydrobenz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol, cis-(+)- / benz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol, 7,11b-dihydro-, cis-(+)- / C.I. 75290 / cis-(+)-7,11b-dihydrobenz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol / cis-(+)-benz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol, 7,11b-dihydro- / Ehrlich's hematoxylin / haematoxylin / hematoxylin (Ehrlich's) / hydroxybrasilin / natural black / natural black 1	(CAS-No.) 517-28-2	0.05 - 0.5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
sodium iodate	iodic acid (HIO3), sodium salt / iodic acid, sodium salt / sodium iodate / sodium iodate (NaIO3)	(CAS-No.) 7681-55-2	< 0.05	Ox. Sol. 2, H272 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Mayer's hematoxylin
No additional information available

hematoxylin (517-28-2)
No additional information available

sodium iodate (7681-55-2)
No additional information available

chloral, hydrate (302-17-0)
No additional information available

aluminium ammonium sulfate, dodecahydrate (7784-26-1)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : No data available

Odor : No data available

Odor threshold : No data available

pH : No data available

Melting point : Not applicable

Freezing point : No data available

Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

hematoxylin (517-28-2)	
LD50 oral rat	400 mg/kg (Rat, Literature study, Oral)
ATE US (oral)	400 mg/kg body weight

sodium iodate (7681-55-2)	
ATE US (oral)	500 mg/kg body weight

chloral, hydrate (302-17-0)	
ATE US (oral)	100 mg/kg body weight

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified

chloral, hydrate (302-17-0)	
IARC group	2A - Probably carcinogenic to humans

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

hematoxylin (517-28-2)	
Specific target organ toxicity – single exposure	May cause respiratory irritation.

sodium iodate (7681-55-2)	
Specific target organ toxicity – single exposure	May cause respiratory irritation.

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

chloral, hydrate (302-17-0)	
LC50 fish 1	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	556 - 714 mg/l (24 h, Daphnia magna)

12.2. Persistence and degradability

hematoxylin (517-28-2)	
Persistence and degradability	Biodegradability in water: no data available.

sodium iodate (7681-55-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

chloral, hydrate (302-17-0)	
Persistence and degradability	Biodegradable in the soil. Not readily biodegradable in water.

aluminium ammonium sulfate, dodecahydrate (7784-26-1)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

hematoxylin (517-28-2)	
Log Pow	0.71 (Calculated, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

sodium iodate (7681-55-2)	
Log Pow	-7.18
Bioaccumulative potential	Not bioaccumulative.

chloral, hydrate (302-17-0)	
Log Pow	1.092 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

aluminium ammonium sulfate, dodecahydrate (7784-26-1)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

hematoxylin (517-28-2)	
Ecology - soil	No (test)data on mobility of the substance available.

chloral, hydrate (302-17-0)	
Log Koc	1.645 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Highly mobile in soil. Not toxic to bees in normal conditions of use. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

hematoxylin (517-28-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

sodium iodate (7681-55-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

chloral, hydrate (302-17-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

aluminium ammonium sulfate, dodecahydrate (7784-26-1)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

hematoxylin (517-28-2)
Listed on the Canadian DSL (Domestic Substances List)

sodium iodate (7681-55-2)
Listed on the Canadian DSL (Domestic Substances List)

chloral, hydrate (302-17-0)
Listed on the Canadian DSL (Domestic Substances List)

aluminium ammonium sulfate, dodecahydrate (7784-26-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

National regulations

chloral, hydrate (302-17-0)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

chloral, hydrate (302-17-0)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

H272	May intensify fire; oxidizer
H301	Toxic if swallowed
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H350	May cause cancer

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Oil Red O Reagent

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/14/2019 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Substance

Substance name : Oil Red O Reagent

Product code : 712O

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 3	H336	May cause drowsiness or dizziness

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H225 - Highly flammable liquid and vapour
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a poison center or doctor if you feel unwell
P337+P313 - If eye irritation persists: Get medical advice/attention.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Oil Red O Reagent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
2-propanol	1-methylethanol / 1-methylethyl alcohol / 2-hydroxypropane / 2-propanol / 2-propanol,anhydrous / 2-propyl alcohol / AI3-01636 / alcojel / alcosolve / AVANTIN / AVANTINE / caswell No 507 / chromar (=2-propanol) / combi-schutz / CORONA WIRE CLEANER (=2-propanol) / CTL R-53 reducer / dimethyl carbinol / DISK DRIVE HEAD CLEANING KIT (=2-propanol) / ethyl carbinol / hartosol / hydroxypropane / imsol A / IPA SGL / IPA T1 / IPA USP / IPA, anhydrous / IPA-EG / isoethylcarbinol / isohol / isopropanol, anhydrous / isopropyl alcohol / isopropyl alcohol, anhydrous / KENCO #880-T FLUX THINNER (=2-propanol) / LENS CLENS #3 (=2-propanol) / lutosol / normal-propan-2-ol / n-propan-2-ol / perspirit / persprit / petrohol / PRO / productcode S1155 / propan-2-ol / propyl alcohol (=sec-propyl alcohol) / pseudo-propyl alcohol / secondary-propyl alcohol / sec-propanol / sec-propyl alcohol / spectrar / STCC 4904205 / sterisol hand disinfectant / takineocol / TEXPADS / visco 1152 / XEROX FILM REMOVER	(CAS-No.) 67-63-0	>= 80	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapour.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Oil Red O Reagent	
No additional information available	

2-propanol (67-63-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (ppm)	200 ppm
ACGIH STEL (ppm)	400 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	No data available
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified

Acute toxicity (inhalation) : Not classified

2-propanol (67-63-0)	
LD50 oral rat	5840 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (ppm)	> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	5840 mg/kg body weight
ATE US (dermal)	16400000 mg/kg body weight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : May cause drowsiness or dizziness.

2-propanol (67-63-0)	
Specific target organ toxicity – single exposure	May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

2-propanol (67-63-0)	
LC50 fish 1	9640 - 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)

12.2. Persistence and degradability

2-propanol (67-63-0)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.19 g O_2/g substance
Chemical oxygen demand (COD)	2.23 g O_2/g substance
ThOD	2.4 g O_2/g substance

12.3. Bioaccumulative potential

2-propanol (67-63-0)	
Log Pow	0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

2-propanol (67-63-0)	
Surface tension	0.021 N/m (25 °C)
Log Koc	0.185 - 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

2-propanol (67-63-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

2-propanol (67-63-0)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

National regulations

No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Propylene Glycol,85%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/08/2019 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Propylene Glycol,85%
CAS-No.	:	57-55-6
Product code	:	809P
Formula	:	C3H8O2
Synonyms	:	1,2-dihydroxypropane / 1,2-propanediol / 1,2-propylene glycol / 2,3-propanediol / alpha-propylene glycol / DOWFROST / methyl ethylene glycol / methylethyl glycol / monopropylene glycol / MPG (=monopropylene glycol) / PG 12 / propane-1,2-diol / propylene glycol / SIRLENE / SOLAR WINTER BAN / SOLARGARD P / trimethyl glycol / UCAR 35
BIG No	:	10375

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Anti-freezing agent Solvent

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number	:	Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
Propylene Glycol,85% (Main constituent)	1,2-dihydroxypropane / 1,2-propanediol / 1,2-propylene glycol / 2,3-propanediol / alpha-propylene glycol / DOWFROST / methyl ethylene glycol / methylethyl glycol / monopropylene glycol / MPG (=monopropylene glycol) / PG 12 / propane-1,2-diol / propylene glycol / SIRLENE / SOLAR WINTER BAN / SOLARGARD P / trimethyl glycol / UCAR 35	(CAS-No.) 57-55-6	100	Not classified

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Alcohol consumption increases the toxicity.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to skin. Not irritant to eyes.

Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Feeling of weakness.

Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Dry skin.

Symptoms/effects after eye contact : Redness of the eye tissue.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea. Abdominal pain.

Chronic symptoms : Change in the haemogramme/blood composition. Decreased renal function.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.

Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Combustible. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing.

Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use earthed equipment. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed.

Hygiene measures : Observe normal hygiene standards.

7.2. Conditions for safe storage, including any incompatibilities

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

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. water/moisture.

Storage area : Store in a cool area. Store in a dry area. Store at ambient temperature. Keep out of direct sunlight. Ventilation at floor level. Provide the tank with earthing. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. dry. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: stainless steel. carbon steel. aluminium. copper. bronze. nickel. steel with plastic inner lining.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Propylene Glycol,85% (57-55-6)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: nitrile rubber. GIVE GOOD RESISTANCE: butyl rubber. natural rubber. polyethylene. PVC. polyethylene/ethylenevinylalcohol. neoprene

Hand protection:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	Colourless
Odor	:	Almost odourless
Odor threshold	:	No data available
pH	:	6.5 - 7.5 (50 %)
Melting point	:	< -20 °C (1013.25 hPa, EU Method A.1: Melting/freezing point)
Freezing point	:	No data available
Boiling point	:	184 °C (1003 hPa, EU Method A.2: Boiling point)
Critical temperature	:	352 °C
Flash point	:	104 °C (Closed cup, 1000 hPa, EU Method A.9: Flash-Point)
Relative evaporation rate (butyl acetate=1)	:	< 0.1
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	20 hPa (25 °C, EU Method A.4: Vapour Pressure)
Relative vapor density at 20 °C	:	2.6
Relative density	:	1.03 (20 °C, EU Method A.3: Relative Density)
Relative density of saturated gas/air mixture	:	1
Specific gravity / density	:	1038 kg/m³
Molecular mass	:	76.1 g/mol
Solubility	:	Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in 1,4-dioxane. Soluble in pine oil. Water: 100 vol % (20 °C, EU Method A.6: Water solubility) Ethanol: complete Ether: 12 g/100ml Acetone: complete
Log Pow	:	-1.07 (Experimental value, EU Method A.8: Partition Coefficient, 20.5 °C)
Auto-ignition temperature	:	> 400 °C (1000 - 1001 hPa, EU Method A.15: Auto-ignition Temperature (liquids and gases))
Decomposition temperature	:	No data available
Viscosity, kinematic	:	41.84 mm²/s
Viscosity, dynamic	:	43.43 mPa·s (25 °C)
Explosion limits	:	2.60 - 12.60 vol % 80 - 400 g/m³ Lower explosive limit (LEL): 2.6 vol % UEL: 12.6 vol %
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Specific conductivity	:	4.4 µS/m
Saturation concentration	:	0.54 g/m³
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) oxidizers: (increased) risk of fire. Violent to explosive reaction with (strong) acids.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Propylene Glycol,85% (57-55-6)	
LD50 oral rat	22000 mg/kg (Rat, Experimental value, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (24 h, Rabbit, Experimental value, Dermal, 14 day(s))
ATE US (oral)	22000 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 6.5 - 7.5 (50 %)
Serious eye damage/irritation : Not classified
pH: 6.5 - 7.5 (50 %)
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : 41.84 mm²/s
Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Not irritant to skin. Not irritant to eyes.
Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Feeling of weakness.
Symptoms/effects after skin contact : ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Dry skin.
Symptoms/effects after eye contact : Redness of the eye tissue.
Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea. Abdominal pain.
Chronic symptoms : Change in the haemogramme/blood composition. Decreased renal function.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photolysis in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Not harmful to algae. Not harmful to bacteria.

Propylene Glycol,85% (57-55-6)	
LC50 fish 1	51600 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Experimental value)
LC50 fish 2	40613 mg/l (Other, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value)
ErC50 (algae)	24200 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

Propylene Glycol,85% (57-55-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.96 - 1.08 g O_2/g substance
Chemical oxygen demand (COD)	1.63 g O_2/g substance
ThOD	1.69 g O_2/g substance

12.3. Bioaccumulative potential

Propylene Glycol,85% (57-55-6)	
BCF other aquatic organisms 1	0.09
Log Pow	-1.07 (Experimental value, EU Method A.8: Partition Coefficient, 20.5 °C)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Propylene Glycol,85% (57-55-6)	
Surface tension	71.6 mN/m (21.5 °C, 1.01 g/l, EU Method A.5: Surface tension)
Log Koc	0.46 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Propylene Glycol,85% (57-55-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Propylene Glycol,85% (57-55-6)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

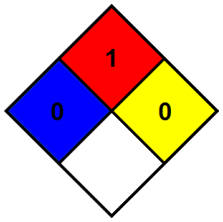
SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.