



**Pictograms**



**Precautionary statements**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.  
 P264 Wash skin thoroughly after handling.  
 P280 Wear protective gloves/eye protection/face protection.  
 P285 In case of inadequate ventilation wear respiratory protection.  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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/ physician if you feel unwell.  
 P321 Specific treatment (see supplemental first aid instructions on this label).  
 P333+313 If skin irritation or rash occurs: Get medical advice/attention.  
 P337+313 If eye irritation persists: Get medical advice/attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P403+233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container to an approved waste disposal plant.

**Hazards not otherwise classified**

**R & S phrases**

R:36+37+38 Irritating to eyes, respiratory system, and skin.  
 S:26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 R:22 Harmful if swallowed.  
 R:42 May cause sensitization by inhalation.  
 S:36/37 Wear suitable protective clothing and gloves.

**Percentage of mixture containing ingredients with unknown toxicity**

No applicable information.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Hazardous Components

Chemical name	Anatrace Prod No.	CAS Number	Working Conc. (mM)
Anzergent® 3-10	AZ310	15163-36-7	78

Anzergent 3-12	AZ312	14933-08-5	8.4
Anzergent 3-14	AZ314	14933-09-6	10
n-Decyl-N,N-Dimethylglycine	D352	2644-45-3	38
n-Dodecyl-N,N-Dimethylglycine	D350	683-10-3	4.5
n-Decyl-N,N-Dimethylamine-N-Oxide	D365	2605-79-0	21
n-Undecyl-n,n,-Dimethylamine-Oxide	U360	15178-71-9	9.6
n-Dodecyl-N,N-Dimethylamine-N-Oxide	D360	1643-20-5	3
Cyclofos™-3	C510	823796-66-3	86
Cyclofos™-4	C512	675126-15-5	28
Cyclofos™-5	C514	657393-64-1	13.5
Cyclofos™-6	C516	657393-65-2	8.04
Cyclofos™-7	C518	657393-66-3	6.2
Fos-Choline®-12	F308	29557-51-5	4.5
Fos-Choline®-13	F310	85775-42-4	7.5
Fos-Choline®-14	F312	77733-28-9	6
Fos-Choline®-15	F314	146801-07-2	7
Fos-Choline®-16	F316	58066-85-6	1.3
Fos-Choline®-ISO-9	FCI09	869646-90-2	64
Fos-Choline®-ISO-11	FCI11	869647-65-4	53.2
Fos-Choline®-UNSAT-11-10	FCU110	121045-77-0	15.5
1,2-Diheptanoyl-sn-Glycero-3-Phosphocholine	D607	39036-04-9	4.2
LysoPC-12	L212	20559-18-6	7
LysoPC-14	L214	20559-16-4	3.6
CHAPS	C316	75621-03-3	20
CHAPSO	C317	82473-24-3	20
Ph-Tripglu	T380	1126527-67-0	10.8
Cy-Tripglu	T385	1126527-71-6	5.4
LAPAO	L360S	61792-31-2	4.8
Tripao	T370	318293-46-8	13.5
Anapoe®-20 (Tween 20)	APT020	9005-64-5	5.9
Anapoe-35 (Brij 35)	APB035	9002-92-0	9.1
Anapoe-X-100	APX100	9002-93-1	11.5
Anapoe-X-114	APX114	9036-19-5	10
Anapoe-X-305	APX305	9002-93-1	6.5
Anapoe-X-405	APX405	9002-93-1	8.1
[Octylphenoxy]Polyethoxyethanol	APND40	2497-59-8	15
Lauryl Maltose Neopentyl Glycol	NG310	1257852-96-2	1
Octyl Glucose Neopentyl Glycol	NG311	1257853-32-9	3.06
Decyl Maltose Neopentyl Glycol	NG322	1257852-99-5	3.6
CYMAL®-5 Neopentyl Glycol	NG325	1257853-03-4	5.8
CYMAL-6 Neopentyl Glycol	NG326	1423306-24-4	2
GDN101 - GDN	GDN101	1402423-29-3	1.8
Triethylene Glycol Monoethyl Ether	T330	25961-89-1	46
Tetraethylene Glycol Monoethyl Ether	T340	39619-69-7	60
Pentaethylene Glycol Monoethyl Ether	P360	86674-95-5	74
Pentaethylene Glycol Monoheptyl Ether	P370	65316-79-2	42
Tetraethylene Glycol Monoethyl Ether	T350	19327-39-0	20
Pentaethylene Glycol Monoethyl Ether	P350	19327-40-3	17.75

Hexaethylene Glycol Monoethyl Ether	H350	4440-54-4	25
Pentaethylene Glycol Monodecyl Ether	P340	23244-49-7	8.1
Hexaethylene Glycol Monodecyl Ether	H360	5168-89-8	9
Polyoxyethylene(9)decyl Ether	APO109	26183-52-81	3.9
Heptaethylene Glycol Monododecyl Ether	H370	3055-97-8	6.9
Octaethylene Glycol Monododecyl Ether	O330	3055-98-9	9
Polyoxyethylene(9)dodecyl Ether	APO129	3055-99-0	5
Polyoxyethylene(10)dodecyl Ether	AP1210	6540-99-4	10
Polyoxyethylene(8)tridecyl Ether	APO138	9043-30-5	10
Big CHAP	B300	86303-22-2	8.7
Big CHAP, Deoxy	B310	86303-23-3	4.2
n-Heptyl-β-D-Thioglucopyranoside	H301	85618-20-8	58
n-Octyl-β-D-Thioglucopyranoside	O314	85618-21-9	12.5
n-Octyl-β-D-Glucopyranoside	O311	29836-26-8	36
n-Nonyl-β-D-Glucopyranoside	N324	69984-73-2	16.25
CYGLU®-3	C323G	869541-00-4	56
HECAMEG	A340	115457-83-5	39
Hega-9	H109	869653-90-7	78
Hega-10	H110	139361-84-5	17.5
Mega-9	M325	85261-19-4	50
Mega-10	M320	8561-20-7	6
2-Hydroxyethyloctylsulfoxide	Bachem-P1105	7305-30-8	48.4
CYMAL-3	C323	181135-58-0	60
CYMAL-4	C324	181135-57-9	19
CYMAL-5	C325	250692-65-0	7.2
CYMAL-6	C326	228579-27-9	5.6
CYMAL-7	C327	349477-49-2	9.5
2,6-Dimethyl-4-Heptyl-β-D-Maltoside	DH325	869638-31-3	55
2-Propyl-1-Pentyl-β-D-Maltopyranoside	P310	869668-28-0	85
n-Octyl-β-D-Maltopyranoside	O310	82494-08-4	39
n-Nonyl-β-D-Maltopyranoside	N330	106402-05-5	15
n-Decyl-α-D-Maltopyranoside	D322HA	168037-12-5	4.8
n-Decyl-β-D-Maltopyranoside	D322	82494-09-4	5.4
n-Undecyl-α-D-Maltopyranoside	U300HA	168037-13-6	5.8
n-Undecyl-β-D-Maltopyranoside	U300	253678-67-0	5.9
ω-Undecylenyl-β-D-Maltopyranoside	U310	869704-76-7	3.6
n-Dodecyl-α-D-Maltopyranoside	D310HA	116183-64-3	7.5
n-Dodecyl-β-D-Maltopyranoside	D310	69227-93-6	8.5
n-Tridecyl-β-D-Maltopyranoside	T323	93911-12-7	1.5
n-Octyl-β-D-Thiomaltopyranoside	O320	148616-91-5	21.25
n-Nonyl-β-D-Thiomaltopyranoside	N350	148565-55-3	9.6
n-Decyl-β-D-Thiomaltopyranoside	D335	148565-56-4	9
n-Undecyl-β-D-Thiomaltopyranoside	U342	148565-57-5	10.5
n-Dodecyl-β-D-Thiomaltopyranoside	D342	148565-58-6	5
Sucrose 12	S350	25339-99-5	15

<b>Chemical Formula</b>	Please refer to the formulations sheets for exact formula composition.
<b>Weight %</b>	N/A
<b>Impurities and stabilizing additives</b>	N/A
<u>Other components</u>	None

NOTE: Components not identified are not hazardous or are below regulatory disclosure limits.

## 4. FIRST-AID MEASURES

GENERAL ADVICE: Seek medical advice if irritation persists.

EYES: Flush with water thoroughly for 15 minutes, lifting upper and lower lids occasionally. Seek medical advice if irritation persists.

SKIN: Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.

INHALATION: Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.

INGESTION: Drink plenty of water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person. Seek medical attention.

Wash contaminated clothing before reuse.

<b>Symptoms and effects</b>	<b>Medical Care</b>
N/A	Refer to physician. Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Extinguishing equipment** Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self-contained breathing apparatus.

For small fires only: use water fog, dry powder, or foam. Emits toxic fumes under fire conditions.

**Inappropriate extinguishing equipment** N/A

**Flash point and method** No information available.

**Hazards when burning** No information available.

**Special instructions for firefighters** Emits toxic fumes under fire conditions such as carbon oxides, Nitrogen oxide, and sulfur oxides, Phosphorous oxides



**Firefighting equipment**

Wear NIOSH (or equivalent) approved self-contained breathing apparatus and wear full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

Wear suitable gloves, chemical safety goggles, lab coat.  
Use only in a chemical fume hood.  
NIOSH-approved respirator.  
Avoid contact with skin or eyes.  
Avoid breathing vapors, mist or gas.  
Keep container in a well-ventilated place.

**Emergency procedures**

Evacuate all personnel to safe areas.

**Containment**

Wear appropriate personal protective equipment.  
Keep container tightly closed.  
Avoid contact of material with skin or eyes.  
Use adequate ventilation.  
Store at -20°C.

**Clean-up procedures**

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, heavy rubber gloves, rubber boots, and NIOSH-approved respirator. Avoid creating dust, gently sweep material. Place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

**7. HANDLING AND STORAGE**

**Handling**

Do not breathe vapors. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Exercise caution when handling contents of the container. Wash with soap and water before eating, drinking, smoking, or using toilet facilities.

**Storage**

Keep in closed or covered containers when not in use. Store in cool dry place with adequate ventilation. Store at 4°C.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**OSHA Permissible Exposure Limits (PELs)**

N/A

**American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLVs)**

N/A

**Other recommended exposure limits**

Not available



**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems

**Personal protective measures**

Eye/Face  
Skin and Body  
Respiratory

Chemical splash goggles  
Wear protective gloves and adequate clothing  
NIOSH-approved respirator

**Requirements for personal protective equipment**

Handle in accordance with good industrial hygiene and safety practice

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state</b>	Liquid	<b>Color</b>	Varies by ingredient component
<b>Odor</b>	Varies by ingredient component	<b>Odor threshold</b>	Varies by ingredient component
<b>pH</b>	Varies by ingredient component	<b>Flash point</b>	Varies by ingredient component
<b>Melting point</b>	Varies by ingredient component	<b>Freezing point</b>	Varies by ingredient component
<b>Initial boiling point</b>	Varies by ingredient component	<b>Boiling range</b>	Varies by ingredient component
<b>Evaporation rate</b>	Varies by ingredient component	<b>Flammability</b>	Varies by ingredient component
<b>Upper flammability</b>	Varies by ingredient component	<b>Lower flammability</b>	Varies by ingredient component
<b>Vapor pressure</b>	Varies by ingredient component	<b>Vapor density</b>	Varies by ingredient component
<b>Relative density</b>	Varies by ingredient component	<b>Viscosity</b>	Varies by ingredient component
<b>Solubility</b>	Water soluble	<b>Partition coefficient</b>	Varies by ingredient component
<b>Auto-ignition temperature</b>	Varies by ingredient component	<b>Decomposition temperature</b>	Varies by ingredient component

**10. STABILITY AND REACTIVITY**

**Reactivity** Product is stable



<b>Chemical stability</b>	None
<b>State in normal ambient temperature and conditions</b>	Stable
<b>Necessary stabilizers</b>	None
<b>Safety issues if product changes physical appearance</b>	N/A
<b>Other</b>	
<b>Possibility of hazardous reactions</b>	Hazardous polymerization will not occur under standard conditions
<b>Conditions to be avoided</b>	Strong oxidizing agents, acids, bases
<b>Incompatible materials</b>	No information available
<b>Known or anticipated hazardous decomposition products</b>	Hazardous decomposition products include Carbon monoxides, carbon dioxide, Nitrogen oxides, Phosphorous oxides

## 11. TOXICOLOGICAL INFORMATION

<b>Effects of exposure</b>	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
<b>Routes of exposure</b>	Multiple products within this kit may be harmful by inhalation, ingestion, or skin absorption. Handle in accordance with good industrial hygiene and safety practice
<b>Short-term exposure</b>	Skin Contact/Absorption: Causes skin irritation. May be harmful if absorbed through the skin. Eye Contact: Causes severe eye irritation and/or burns. Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled. Ingestion: May be harmful if swallowed.
<b>Long-term exposure</b>	May cause cancer. Can cause damage to organs through prolonged or repeated exposure.
<b>Medical conditions aggravated by exposure</b>	No information available.
<b>Toxicity</b>	
<b>Acute Toxicity</b>	<b><u>n-Decyl-N,N-Dimethylglycine</u></b> FHSA Acute Oral LDS0: Between 1.0 and 5.0 gm/Kg FHSA Eye Irritation Score: Corrosive FHSA Skin Irritation Index: 2.0  <b><u>n-Dodecyl-N,N-Dimethylamine-N-Oxide</u></b> LD50 test Oral mouse LD50 = 2700 mg/kg (Washington, DC) LD50 Oral - Rat - 1,064 mg/kg (OECD Test Guideline 401)



## **FOS-CHOLINE-16**

Acute toxicity data listed under RTECS KH2890000

Ld50 oral - rat: 246 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity)

Gastrointestinal: Changes in structure or function of salivary glands

Nutritional and Gross Metabolic: Weight loss or decreased weight gain (Champaign, IL - 1966)

## **LAPAO**

FHSA Acute Oral LDS0: Between 1.0 and 5.0 gm/Kg

FHSA Eye Irritation Score: Corrosive

## **Anapoe-20 (Tween 20)**

ORL-RAT LD50: 28900 UL/KG UCDS\*\*3/3/1969

SKN-RBT LD50: >20 GM/KG UCDS\*\*3,3,1969

Only selected registry of toxic effects of chemical substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

## **Anapoe-X-114**

Ingestion: Oral-RAT LD50:1900-5000mg/kg

## **Anapoe-X-100**

Skin: irritant: SKN-HMN 2mg/3D- 1 MILD, EYE-RBT 1mg MOD

Ingestion: Oral-RAT LD50:1800MG/kg , IVN-MUS LD50:1200mg/kg

Target Organs (Ovaries, Fallopian tubes)

## **Anapoe-35 (Brij 35)**

Oral Rat LD50=2500mg/kg

Toxicity listed in RTECS under TRI1581470

## **Anapoe-X-405**

Ingestion : LD50-Rat=1900-5000mg/kg

## **Pentaethylene Glycol Monohexyl Ether:**

ORL-RAT LD50: 28900 UL/KG UCDS\*\*3/3/1969

SKN-RBT LD50: >20 GM/KG UCDS\*\*3,3,1969

### **Chronic Toxicity**

No information available

### **Symptoms**

#### **Anapoe-35 (Brij 35)**

Toxic effects include, nausea, vomiting, urine discoloration, ataxia, peripheral sensory neuropathy

### **Skin corrosion / irritation**

#### **n-Dodecyl-N,N-Dimethylamine-N-Oxide**

Skin - Rabbit

Result: Irritating to skin (OECD Test Guideline 404)

#### **Tween 20**

Irritation data: SKN-RBT 550 mg open mld UCDS\*\*3/3/1969

Eye-RBT 500 mg mld AJOPAA 29,1363,1946

RTECS #: XC2100000: Tetraethylene glycol

#### **Anapoe-X-114**

Skin: irritant, LD50 Dermal - Rabbit - >3000mg/kg

**Pentaethylene Glycol Monohexyl Ether:**

RTECS #: XC2100000: Tetraethylene glycol  
SKN-RBT 550 mg open mld UCDS\*\*3/3/1969  
Eye-RBT 500 mg mld AJOPAA 29,1363,1946

**Serious eye damage/irritation**

**n-Dodecyl-N,N-Dimethylamine-N-Oxide**

Eyes - Rabbit  
Result: Risk of serious damage to eyes (OECD Test Guideline 405)

**Respiratory or skin sensitization**

No information available

**Germ cell mutagenicity**

**n-Dodecyl-N,N-Dimethylamine-N-Oxide**

In vitro mammalian cell gene mutation test  
Chinese hamster lung cells--  
Result: negative

**Carcinogen or potential carcinogen**

No information available

**Reproductive toxicity**

No information available

**STOT - single exposure**

No information available

**STOT - repeated exposure**

No information available

**Aspiration toxicity**

No information available

The absence of hazard, toxicity, or other information does not imply that the product is safe. Handle all chemicals with due and appropriate caution and under competent supervision. Minimize exposure and contact. Use good manufacturing or laboratory practices.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**n-Dodecyl-N,N-Dimethylamine-N-Oxide**

Toxicity to fish

semi-static test LC50 - Danio rerio (zebra fish) - 31.8 mg/l - 96h  
(Dodecyldimethylamine oxide) (OECD Test Guideline 203)

flow-through test NOEC - Pimephales promelas (fathead minnow) -  
0.495 mg/l - 15 d(Dodecyldimethylamine oxide)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 3.9 mg/l - 48h  
(Dodecyldimethylamine oxide) (OECD Test Guideline 202)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata  
(green algae) - 0.2 mg/l - 72 h (Dodecyldimethylamine oxide)  
(OECD Test Guideline 201)

ErC50 - Pseudokirchneriella subcapitata (green algae) - 0.146 mg/l  
(Dodecyldimethylamine oxide)

NOEC - Pseudokirchneriella subcapitata (green algae) - 0.015 mg/l  
(Dodecyldimethylamine oxide)

**Anapoe-X-305**

Dapimia magna LC50 >1000 mg/L (48 hrs.)



**Anapoe-100**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 4 - 8.9 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates LC50 - Daphnia magna (Water flea) - 18 - 26 mg/l - 48 h

**Anapoe-X-405**

Pimephales promelas (fathead minnow) - 440 mg/L – 96hr

**Persistence/degradability**

**n-Dodecyl-N,N-Dimethylamine-N-Oxide**

Aerobic – Exposure time 28 d (Dodecyldimethylamine oxide)

Result: 95.2 % - Readily biodegradable (OECD Test Guideline 301C)

**Bioaccumulation potential**

**Anzergent**

Biodegradability >94% : 20d

**Potential for soil to groundwater movement**

The product is water soluble and may spread in water systems

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Disposal**

Dispose of material in accordance with applicable local, state, and federal regulations.

**Appropriate containers**

No information available

**Appropriate methods**

No information available

**Physical and chemical properties affecting disposal**

No information available

**Precautions for landfills or incineration activities**

No information available

**RCRA hazardous waste code**

N/A

**Special instructions**

No information available

NOTE: Chemicals should not be disposed of in or near sewers and waterways.

**14. TRANSPORT INFORMATION**

**UN number**

Not regulated

**UN proper shipping name**

Not regulated

**Transport hazard classes**

**Department of Transportation hazard class**

N/A

**Transportation of Dangerous Goods hazard class**

N/A



<b>Packing group number</b>	N/A
<b>Environmental hazards</b>	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Guidance on transport in bulk</b>	No information available
<b>Special transport or conveyance precautions</b>	DOT (US) Not regulated IMDG Not regulated IATA Not regulated

**15. REGULATORY INFORMATION**

<b>OSHA regulatory status (29 CFR 1910.1200)</b>	SARA 302 - No applicable information. SARA 313 - This material is not reportable under 313. SARA311/312 : Acute health hazard California Proposition 65 - No applicable information
<b>Department of Transportation regulations</b>	Not regulated under current DOT, IMO or ICAO regulations RCRA - No applicable information.
<b>Environmental Protection Agency regulations</b>	TSCA Inventory Status Listed - No applicable information Exposure Limits - Not established.
<b>Consumer Product Safety Commission regulations</b>	No applicable information

**16. OTHER INFORMATION**

<b>Abbreviations</b>	ACGIH – American Conference of Governmental Industrial Hygienists NIOSH – The National Institute for Occupational Safety and Health HMIS – Hazardous Material Identification System RTECS – Registry of Toxic Effects of Chemical Substances IARC – International Agency for Research on Cancer EPA – Environmental Protection Agency RCRA – Resource Conservation and Recovery Act SARA – Superfund Amendments and Reauthorization Act NTP – National Toxicology Program Annual Report on Carcinogens LC50 – Lethal Concentration to 50 % of a test population LD50 – Lethal Dose to 50% of a test population OECD – Organization for Economic Co-operation and Development TSCA – Toxic Substances Control Act (United States)
<b>Creation</b>	9/15/2020
<b>Latest revision</b>	9/28/2020



**SDS number**

AI-Sel-DP

**Disclaimer**

The above information is believed correct but is not guaranteed to be all-inclusive and shall only be used as a guide. The Company shall not be held liable for any damage resulting from handling or contact with the above product.