

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name MIRACARE 2MHT MB

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Surfactants for various applications
- Surfactants used in cosmetics

Remarks

- This product may rapidly contribute towards a highly hazardous environment within a confined space (e.g. Within ISO tanks, reactors, silos, etc.).
- Risk assessments should be conducted prior to handling this product / material.

1.3 Details of the supplier of the safety data sheet**Company**

CYTEC CANADA INC.
9061 Garner Road, Niagara Falls,
Ontario, Canada L2H 0Y2
Tel:+1-905-356-9000

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although WHMIS has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects

2.1 Classification of the substance or mixture**Hazardous Products Regulations (WHMIS 2015)**

Flammable liquids, Category 4
Skin irritation, Category 2
Serious eye damage, Category 1
Reproductive toxicity, Category 2

H227: Combustible liquid.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H361: Suspected of damaging fertility or the unborn child.

2.2 Label elements

Hazardous Products Regulations (WHMIS 2015)**Pictogram****Signal Word**

- Danger

Hazard Statements

- H227 Combustible liquid.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H361 Suspected of damaging fertility or the unborn child.

Precautionary StatementsPrevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P264 Wash skin thoroughly after handling.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P305 + P351 + P338 + P310 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.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

- P403 Store in a well-ventilated place.
- P405 Store locked up.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

- H401: Toxic to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

- Chemical nature Mixture of surfactants

WHMIS Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [% wt/wt or V/V]
Sodium lauroampho acetate	68608-66-2	>= 16 - < 20
Sodium Tridecyl Ether Sulfate	25446-78-0	>= 15 - < 20
Hexylene Glycol	107-41-5	>= 5 - < 10
Isopropyl Alcohol	67-63-0	>= 1 - < 5
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	>= 1 - < 5

WHMIS Non Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [% wt/wt or V/V]
Water/Inerts	*****	40- 70

SECTION 4: First aid measures**4.1 Description of first-aid measures****General advice**

- Plan first aid action before beginning work with this product.
- First responder needs to protect himself.
- Rescuers should wear PPE during rescue and decontamination of victims.
- Do not leave the victim unattended until the arrival of medical responders.
- Show this material safety data sheet to the doctor in attendance.
- Place affected apparel in a sealed bag for subsequent decontamination.
- Medical evaluation and/or advice necessary even only on suspicion of exposure to this product.

In case of inhalation

- Rescuers should put on appropriate protective gear for rescue.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Keep patient warm and at rest.
- Consult a physician.
- Get medical attention immediately if symptoms occur.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Get medical attention immediately if symptoms occur.
- If skin irritation occurs, seek medical advice/attention.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids.

- Take victim immediately to hospital.
- Continue rinsing eyes during transport to hospital.

In case of ingestion

- Do not induce vomiting without medical advice.
- Rinse mouth with water.
- Do not give anything to drink.
- Keep at rest.
- Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed**Symptoms**

- Symptoms will depend on the target organs.

4.3 Indication of any immediate medical attention and special treatment needed**Notes to physician**

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

- Extinguishing media - small fires
- Water spray
- Carbon dioxide (CO₂)
- Multipurpose powders
- Alcohol-resistant foam
- Extinguishing media - large fires
- Water spray
- Multipurpose powders
- Alcohol-resistant foam

Unsuitable extinguishing media

- Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture**Specific hazards during fire fighting**

- Combustible liquid.
- The pressure in sealed containers can increase under the influence of heat.
- In case of heating:
- Harmful or toxic vapors are released.
- Hazardous decomposition products formed under fire conditions.
- (following evaporation of water)
- High concentrations of toxic or harmful products may remain in the residual liquid once the fire has been extinguished.

Hazardous combustion products:

- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Nitrogen oxides (NOx)
- Sulfur oxides

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

- Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.

Specific fire fighting methods

- Stay upwind.
- Fight fire with normal precautions from a reasonable distance.
- Do not use a solid water stream as it may scatter and spread fire.
- Cool down the containers / equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information

- Evacuate personnel to safe areas.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Immediately evacuate personnel to safe areas.
- Stay upwind.
- Only qualified personnel equipped with suitable protective equipment may intervene.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear chemical resistant personal protective equipment.
- Wear suitable gloves.
- Wear suitable protective clothing.
- Wear respiratory protection.
- Wear as appropriate:
 - Faceshield or an appropriate full face protection.
- Eliminate all ignition sources if safe to do so.
- Ventilate the area.
- Stop leak if safe to do so.
- If spillage occurs on the public highway, indicate the danger and notify the authorities (police, fire service).
- Isolate spill or leak area in a radius of at least 50 meters.

- For further information refer to section 8 "Exposure controls / personal protection."

6.2 Environmental precautions

- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by diking.
- The product should not be allowed to enter drains, water courses or the soil.
- Local authorities should be advised if significant spillages cannot be contained.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal.

6.3 Methods and materials for containment and cleaning up

- No sparking tools should be used.
- Stop leak if safe to do so.
- Dam up with sand or inert earth (do not use combustible materials).
- Control the vapors with:
 - Alcohol-resistant foam
- Soak up with inert absorbent material.
- Shovel or sweep up.
- Keep in suitable, closed containers for disposal.
- Never return spills in original containers for re-use.
- Wash nonrecoverable remainder with large amounts of water.
- Clean contaminated surface thoroughly.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.

Additional advice

- Possible need to alert the neighborhood.
- Mark the contaminated area with signs and prevent access to unauthorized personnel.
- Only qualified personnel equipped with suitable protective equipment may intervene.
- Ventilate the area.
- Following decontamination, the use of appropriate Personal Protective Equipment may be required to enter the affected area for several hours to avoid exposure to any leftover residues.
- Material can create slippery conditions.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Handle in accordance with good industrial hygiene and safety practice.
- Risk assessments, along with appropriate identification and implementation of the corresponding risk controls, are to be conducted by competent person(s) on the intended work processes involving this product.
- This product may rapidly contribute towards a highly hazardous environment within a confined space (e.g. Within ISO tanks, reactors, silos, etc.).
- This product / material has CMR (Carcinogenicity, Mutagenicity, Reproductive toxicity) related hazards.
- Pregnant or breastfeeding workers should not be exposed to this product.
- The product must only be handled by specifically trained employees.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Vapor extraction at source.
- Do not use in areas without adequate ventilation.
- Extracted air must not be allowed to return to the workplace.
- Advice on safe handling
- If dust production may be expected from further processing, handling or by other means:
- Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Provide for appropriate exhaust ventilation and dust collection at machinery.
- Dust must be extracted directly at the point of origin.
- Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
- Any anticipated splash and/or aerosol generation should be contained using suitable engineering controls.
- Ethylene oxide may collect in container head space.
- Provide adequate ventilation.
- Wear personal protective equipment.
- Wear suitable protective clothing.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Do NOT handle without gloves.
- For personal protection, see section 8.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Air sampling and / or biological monitoring of the substances shown in Section 8.1 are to be conducted using methods accepted by local competent authorities responsible for workplace safety and health.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep in a contained area
- The floor of the storage area should be impermeable and designed to form a water-tight basin.
- Keep locked up or in an area accessible only to qualified or authorized persons.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer.
- Keep away from: Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity").

Packaging material**Suitable material**

- Plastic materials.
- Coated metals.

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters**Components with workplace occupational exposure limits**

Consult local authorities for acceptable exposure limits.

Components	Value type	Value	Basis
Hexylene Glycol	TWA	25 ppm	American Conference of Governmental Industrial Hygienists

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	Form of exposure : Vapor		
Hexylene Glycol	STEL	50 ppm	American Conference of Governmental Industrial Hygienists
	Form of exposure : Vapor		
Hexylene Glycol	STEL	10 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Inhalable fraction, Aerosol only		
Isopropyl Alcohol	TWA	200 ppm	American Conference of Governmental Industrial Hygienists
	Not classifiable as a human carcinogen		
Isopropyl Alcohol	STEL	400 ppm	American Conference of Governmental Industrial Hygienists
	Not classifiable as a human carcinogen		

Biological Exposure Indices

Components	Value type	Value	Basis
Isopropyl Alcohol	BEI	40 mg/l Acetone Urine End of shift at end of workweek	American Conference of Governmental Industrial Hygienists
	Nonspecific Background		

8.2 Exposure controls

Control measures

Engineering measures

- Risk assessments, along with appropriate identification and implementation of the corresponding risk controls, are to be conducted by competent person(s) on the intended work processes involving this product.
- Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures :
- Facilities and equipment easily cleanable.
- Enclosure and / or isolation of emission source.
- Effective exhaust ventilation system.
- Extract at emission point.
- Ensure adequate ventilation.
- Ensure that extracted air cannot be returned to the workplace through the ventilation system.
- Any anticipated splash and/or aerosol generation should be contained using suitable engineering controls.
- If dust production may be expected from further processing, handling or by other means:
- Dust must be extracted directly at the point of origin.
- Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual protection measures

Respiratory protection

- This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
- When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.
- If mist is formed:
- If vapor is released:
- Wear a positive-pressure supplied-air respirator with full facepiece.

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves.
- Gloves must be inspected prior to use.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Suitable material

- butyl-rubber

Eye protection

- Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.
- Eye contact should be prevented through the use of:
- Faceshield or an appropriate full face protection.

Skin and body protection

- Lightweight protective clothing.
- Footwear protecting against chemicals.
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

- Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:
 - 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
 - 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
 - 3) Wash exposed skin promptly to remove accidental splashes or contact with material.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Air sampling and / or biological monitoring of the substances shown in Section 8.1 are to be conducted using methods accepted by local competent authorities responsible for workplace safety and health.

Protective measures

- Emergency equipment immediately accessible, with instructions for use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.
- The protective equipment must be selected in accordance with current local regulations and in cooperation with the supplier of the protective equipment.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Physical state</u>	liquid (68 °F (20 °C))
<u>Form</u>	viscous liquid
<u>Color</u>	light yellow
<u>Odor</u>	slight Do not attempt to smell the product as it is hazardous.
<u>Odor Threshold</u>	No data available
<u>Melting point/freezing point</u>	<u>Freezing point</u> : < 32 °F (< 0 °C)
<u>Initial boiling point and boiling range</u>	No data available
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	<u>Lower flammability/explosion limit</u> :

	2.00 %(V) estimated
	<u>Upper flammability/explosion limit:</u> 12.00 %(V) estimated
<u>Flash point</u>	144 °F (62 °C) closed cup Flammability class: Combustible
<u>Autoignition temperature</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>pH</u>	8.0 - 8.5 (100 %)
<u>Viscosity</u>	<u>Viscosity, dynamic</u> : 600 mPa.s (77 °F (25 °C))
<u>Solubility</u>	<u>Water solubility:</u> soluble <u>Solubility in other solvents:</u> water miscible solvents: soluble
<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Vapor pressure</u>	No data available
<u>Density</u>	ca. 1.09 g/cm ³ (68 °F (20 °C))
<u>Relative density</u>	No data available
<u>Relative vapor density</u>	No data available
<u>Particle characteristics</u>	No data available
<u>Evaporation rate (Butylacetate = 1)</u>	No data available
9.2 Other information	
<u>Oxidizing properties</u>	Not considered as oxidizing., Structure-activity relationship (SAR)
<u>Self-ignition</u>	> 752 °F (> 400 °C) Auto-ignition temperature (liquids and gases) Method: EU Test Guideline A15

SECTION 10: Stability and reactivity

10.1 Reactivity

- Stable at normal ambient temperature and pressure.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.
- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Keep away from open flames, hot surfaces and sources of ignition.
- Avoid high temperatures.
- Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

- Strong oxidizing agents

10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis), releases:
- Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Nitrogen oxides (NO_x)
- Sulfur oxides

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

Not classified as hazardous for acute oral toxicity according to GHS.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute inhalation toxicity

Not classified as hazardous for acute inhalation toxicity according to GHS.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute dermal toxicity

Not classified as hazardous for acute dermal toxicity according to GHS.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute toxicity (other routes of administration)

Not applicable

Skin corrosion/irritation

Irritating to skin.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Serious eye damage/eye irritation

Risk of serious damage to eyes.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Respiratory or skin sensitization

Does not cause skin sensitization.

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According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Mutagenicity**Genotoxicity in vitro**

Product is not considered to be genotoxic.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Genotoxicity in vivo

Product is not considered to be genotoxic.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Carcinogenicity

The product is not considered to be carcinogenic.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Toxicity for reproduction and development**Toxicity to reproduction / fertility**

Sodium lauroampho acetate

category approach

Reproduction / developmental toxicity screening test - Rat, male and female, Oral
Fertility NOAEL Parent: 1,000 mg/kg bw/day
OECD Test Guideline 422
No toxicity to reproduction, tested on C8-C18 and C18-unsatd., Unpublished reports

Sodium Tridecyl Ether Sulfate

By analogy, The product is not considered to affect fertility., Unpublished reports

Hexylene Glycol

Extended One-Generation Reproductive Toxicity Study - Rat, male and female, Oral

General Toxicity Parent NOAEL: 800 mg/kg bw/day

General Toxicity F1 NOAEL: 800 mg/kg bw/day

Fertility NOAEL Parent: 250 mg/kg bw/day

Developmental Toxicity NOAEL F1: 250 mg/kg bw/day

Fertility NOAEL F1: 250 mg/kg bw/day

Developmental Toxicity NOAEL F2: 250 mg/kg

OECD Test Guideline 443

Gavage, no impairment of fertility has been observed, Unpublished reports

Reproduction / developmental toxicity screening test - Rat, for males and females, Oral

General Toxicity F1 NOAEL: 500 mg/kg

Fertility NOAEL Parent: >= 1,000 mg/kg

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Reproduction / developmental toxicity screening test - Rat, male
 General Toxicity Parent NOAEL: 200 mg/kg bw/day
 Fertility NOAEL F1: 1,000 mg/kg bw/day

Reproduction / developmental toxicity screening test - Rat, female
 General Toxicity Parent NOAEL: > 1,000 mg/kg bw/day

OECD Test Guideline 421
 no impairment of fertility has been observed, Unpublished reports

Isopropyl Alcohol

Two-generation reproductive toxicity - Rat, male and female
 Fertility NOAEL Parent: 1,000 mg/kg
 OECD Test Guideline 416

Fertility NOAEL F1: 1,000 mg/kg
 Gavage, Unpublished reports, Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Fertility study 1 generation - Rat, male and female
 Fertility NOAEL Parent: 853 mg/kg
 OECD Test Guideline 415
 drinking water, Published data, The product is not considered to affect fertility.

Developmental Toxicity/Teratogenicity

Sodium lauroampho acetate

category approach

Pre-natal - Rat, male and female, Oral
 General Toxicity Maternal NOAEL: 1,000 mg/kg bw/day
 Teratogenicity LOAEL: 100 mg/kg bw/day
 Developmental Toxicity LOAEL: 100 mg/kg bw/day
 Method: OECD Test Guideline 414
 Effects on development were observed, The significance of these findings for humans is not certain., tested on C8-C18 and C18-unsatd., Unpublished reports

Sodium Tridecyl Ether Sulfate

By analogy, The product is not considered to be teratogenic., Unpublished reports

Hexylene Glycol

Pre-natal - Rabbit, male and female, Oral
 General Toxicity Maternal NOAEL: 600 mg/kg bw/day
 Embryo-fetal toxicity. NOAEL F1: 600 mg/kg bw/day
 Method: OECD Test Guideline 414
 Gavage, Delayed ossification, Unpublished reports

Pre-natal - Rat, Oral exposure
 General Toxicity Maternal NOAEL: 300 mg/kg bw/day
 Teratogenicity NOAEL: 1,000 mg/kg bw/day
 Embryo-fetal toxicity. NOAEL: 300 mg/kg bw/day
 Method: OECD Test Guideline 414
 Delayed ossification, Developmental toxicity was observed in the presence of maternal toxicity., Unpublished reports

Isopropyl Alcohol

Rat, male and female
 General Toxicity Maternal NOAEL: 400 mg/kg
 Teratogenicity NOAEL: 400 mg/kg
 Method: OECD Test Guideline 414
 Gavage, Unpublished reports, The product is not considered to be embryotoxic / fetotoxic.

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Rat, male and female
General Toxicity Maternal NOAEL: 596 mg/kg
Teratogenicity NOAEL: 596 mg/kg
Method: OECD Test Guideline 414
drinking water, Published data, The product is not considered to be embryotoxic / fetotoxic.

STOT**STOT-single exposure**

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

The product itself has not been tested.

Experience with human exposure**Experience with human exposure : Inhalation**

Hexylene Glycol

Inhalation of vapors in high concentration may cause irritation of respiratory system.
Published data

CMR effects**Mutagenicity**

Sodium lauroampho acetate

Not classified as mutagen according to GHS criteria.

Teratogenicity

Hexylene Glycol

Classified as toxic for the reproduction in Category 2 (development) according to GHS criteria

Aspiration toxicity

Not classified for aspiration toxicity according to GHS criteria.

Aspiration toxicity

According to the available data on the components, According to the classification criteria for mixtures., Internal evaluation.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment****Acute toxicity to fish**

The product itself has not been tested. Global ecotoxicity assessment available below.

Acute toxicity to daphnia and other aquatic invertebrates

The product itself has not been tested. Global ecotoxicity assessment available below.

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Toxicity to aquatic plants	The product itself has not been tested. Global ecotoxicity assessment available below.
Toxicity to microorganisms	The product itself has not been tested.
Chronic toxicity to fish	The product itself has not been tested. Global ecotoxicity assessment available below.
Chronic toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested. Global ecotoxicity assessment available below.

Sediment compartment

Toxicity to benthic organisms	The product itself has not been tested.
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Terrestrial Compartment

Toxicity to soil dwelling organisms	The product itself has not been tested.
Toxicity to terrestrial plants	The product itself has not been tested.
Toxicity to above ground organisms	The product itself has not been tested.

12.2 Persistence and degradability**Abiotic degradation**

Stability in water	Conclusion is not possible for a mixture as a whole.
Photodegradation	Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

Physico-chemical removability	Conclusion is not possible for a mixture as a whole.
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Biodegradation

Biodegradability	As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually (rapid degradability assessment available below).
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Degradability assessment

All or most of the components are considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential**Partition coefficient: n-octanol/water**

Sodium lauroampho acetate	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Hexylene Glycol	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Isopropyl Alcohol	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Bioconcentration factor (BCF)	None of the components are considered to be potentially bioaccumulable.

12.4 Mobility in soil

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Adsorption potential (Koc)

Conclusion is not possible for a mixture as a whole.

Known distribution to environmental compartments

Sodium lauroampho acetate

Ultimate destination of the product: Water

Hexylene Glycol

Ultimate destination of the product: Water
Internal evaluation.

Isopropyl Alcohol

Ultimate destination of the product: Water

Air

Method: Estimation method / Structure-activity relationship (SAR)

Predicted distribution to environmental compartments

Published data

12.5 Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating, and toxic (PBT).

This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Ecotoxicity assessment****Short-term (acute) aquatic hazard**According to the available data on the components
Toxic to aquatic life.According to the classification criteria for mixtures.
Unpublished reports
Published data**Long-term (chronic) aquatic hazard**According to the available data on the components
No chronic environmental hazard identified.According to the classification criteria for mixtures.
Unpublished reports
Published data**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product Disposal**

- Dispose of in accordance with local regulations.
- Waste Management options should first consider possible re-use or recycling opportunities. Some provinces have active "Waste Exchange" networks for re-use and recycling of wastes. Contact your local waste management companies to explore available options. All waste management activities must obey local, provincial and federal regulations. Possible disposal methods include the following:
- Can be incinerated, when in compliance with local regulations.

Prohibition

- Do not discharge directly into the environment.
- Do not dispose of with domestic refuse.

Advice on cleaning and disposal of packaging

- Empty remaining contents.
- Clean using steam.
- Monitor the residual vapors.
- Dispose of rinse water in accordance with local and national regulations.
- Containers that cannot be cleaned must be treated as waste.
- Dispose of contents/ container to an approved waste disposal plant.
- Dispose of in accordance with local regulations.
- Where possible recycling is preferred to disposal or incineration.
- The recycled material must be completely dry and free of pollutants.

Prohibition

- Do NOT dispose of untreated packaging with industrial waste.
- Do not dispose of with domestic refuse.

SECTION 14: Transport information**TDG**

not regulated

49 CFR

14.1 UN number	NA 1993
14.2 Proper shipping name	COMBUSTIBLE LIQUID, N.O.S. (ISOPROPANOL)
14.3 Transport hazard class	Combustible liquid.
Label(s)	NONE
14.4 Packing group	III
Packing group	128
14.5 Environmental hazards	NO
Marine pollutant	
14.6 Special precautions for user	

Remarks : The combustible liquid classification only applies when shipped in package sizes >119 gallons.

NOM

not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of

transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- One or more components not listed on inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Syensqo legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, please contact your local representative for additional information.

15.2 National Regulations

Canada. CEPA 1999 Significant New Activity (SNAc) List:

- No substances are subject to a Significant New Activity Notification.

SECTION 16: Other information

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NFPA (National Fire Protection Association) - Classification

Health	2 moderate
Flammability	2 moderate
Instability or Reactivity	0 minimal

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	2 moderate
Flammability	2 moderate
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Distribute new edition to clients
- Update
- See section 3

Key or legend to abbreviations and acronyms used in the safety data sheet

- C: Ceiling limit
- PEL: Permissible exposure limit
- ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- STEL: Short term exposure limit
- TWA: 8-hour, time-weighted average
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland
- Waterways:
 - RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 - IATA: International Air Transport Association.
 - ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
 - IMDG: International Maritime Dangerous Goods.
 - TWA: Time weighted average
 - ATE: Estimated value of acute toxicity
 - EC: European Community number
 - CAS: Chemical Abstracts Service.
 - LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
 - LC50: Substance concentration causing 50% (half) death in the test animals group.
 - EC50: Effective Concentration of the substance causing the maximum of 50%.
 - PBT: Persistent, Bioaccumulative and Toxic substance.
 - vPvB: Very Persistent and Very Bioaccumulative.
 - SEA: Classification, labeling, packaging regulation
 - DNEL: Derived No Effect Level
 - PNEC: Predicted No Effect Concentration
 - STOT: Specific Target Organ Toxicity

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Not all acronyms listed above are referenced in this SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.