

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

- Trade name MACKAM CB 35

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

- Detergent
- Emulsifier

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

Solvay USA Inc.,
NOVECARE
504 Carnegie Center
Princeton, NJ, 08540, US
Telephone Number: 800-973-7873

1.4 Emergency telephone

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

SECTION 2: Hazards identification

Although OSHA 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**HCS 2012 (29 CFR 1910.1200)**

Skin irritation, Category 2

Serious eye damage, Category 1

H315: Causes skin irritation.

H318: Causes serious eye damage.

2.2 Label elements**HCS 2012 (29 CFR 1910.1200)****Pictogram****Signal Word**

- Danger

Hazard Statements

- H315 Causes skin irritation.
- H318 Causes serious eye damage.

Precautionary Statements

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Prevention

- P264 Wash skin thoroughly after handling.
- P280 Wear protective gloves/ eye protection/ face protection.

Response

- P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.

2.3 Other hazards which do not result in classification

- H401: Toxic to aquatic life.
- H412: Harmful to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture**Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
Lauryl Betaine	683-10-3	$\geq 16 - < 20$
Myristyl Betaine	2601-33-4	$\geq 5 - < 10$
Cetyl Betaine	693-33-4	$\geq 1 - < 5$

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Non Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Water/Inerts	*****	< 67

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

- First responder needs to protect himself.
- Show this material safety data sheet to the doctor in attendance.
- Place affected apparel in a sealed bag for subsequent decontamination.
- When symptoms persist or in all cases of doubt seek medical advice.

In case of inhalation

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with soap and plenty of water.
- Use a mild soap if available.
- 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 if necessary.

4.2 Most important symptoms and effects, both acute and delayed

- no data available

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

<u>Flash point</u>	>212 °F (100 °C) closed cup
	Flammability class: Will burn
<u>Autoignition temperature</u>	No data available
<u>Flammability / Explosive limit</u>	No data available

5.1 Extinguishing media**Suitable extinguishing media**

- Extinguishing media - small fires
- Water spray
- Multipurpose powders
- Carbon dioxide (CO₂)
- Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)
- Extinguishing media - large fires
- Water spray
- Multipurpose powders
- Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)

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

- The pressure in sealed containers can increase under the influence of heat.
- Aqueous liquid. Does not present any particular risk in the event of a fire.
- 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)

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

- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear chemical resistant personal protective equipment
- Wear suitable gloves.
- Wear suitable protective clothing.

- Wear as appropriate:
- Face-shield

- Tightly fitting safety goggles
- In the case of dust or aerosol formation use respirator with an approved filter.
- In the case of vapor formation use a respirator with an approved filter.
- Stop leak if safe to do so.
- For further information refer to section 8 "Exposure controls / personal protection."

6.2 Environmental precautions

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- 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.
- Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies

6.3 Methods and materials for containment and cleaning up

- Stop leak if safe to do so.
- Dam up with sand or inert earth (do not use combustible materials).
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
- 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

- 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.
- Wear personal protective equipment.
- Wear suitable protective clothing.
- Avoid inhalation, ingestion and contact with skin and eyes.

- Avoid splashes.
- Avoid formation of aerosol.
- 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.

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 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
- Do not freeze.
- 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

- Stainless steel 316L
- Coated carbon steel with phenolic resin
- Polypropylene Homopolymer (PPH)
- Fibre-reinforced plastic with vinylester resins
- PTFE coated tank
- PVDF coated tank
- Glass lined steel

Unsuitable material

- Stainless steel 304L
- Carbon steel

Requirements for storage rooms and vessels

- Do not freeze.

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

- Contains no substances with occupational exposure limit values.

8.2 Exposure controls**Control measures****Engineering measures**

- 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 :
 - Effective exhaust ventilation system
 - Ensure adequate ventilation.
 - Extract at emission point.
 - Ensure that extracted air cannot be returned to the workplace through the ventilation system.
- Avoid splashes.
- Avoid formation of aerosol.

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.
- Use a respirator with an approved filter if a risk assessment indicates this is necessary.

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

- Nitrile rubber
- Neoprene
- PVC
- 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:

- Tightly fitting safety goggles
- Face-shield

Skin and body protection

- Full protective suit
- 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.

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>Appearance</u>	<u>Form:</u> Aqueous solution
	<u>Physical state:</u> liquid (77 °F (25 °C))
	<u>Color:</u> colorless to pale yellow
<u>Odor</u>	slight ammonia
<u>Odor Threshold</u>	No data available
<u>pH</u>	6.5 - 8.5 (68 °F (20 °C)) (undiluted)
<u>Melting point/freezing point</u>	No data available
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range:</u> ca. 212 °F (100 °C)
<u>Flash point</u>	> 212 °F (100 °C) closed cup

	Flammability class: Will burn
<u>Evaporation rate (Butylacetate = 1)</u>	No data available
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	No data available
<u>Autoignition temperature</u>	No data available
<u>Vapor pressure</u>	No data available
<u>Vapor density</u>	> 1
<u>Density</u>	1.04 kg/dm ³ (68 °F (20 °C))
<u>Relative density</u>	1.04 (77 °F (25 °C))
<u>Solubility</u>	<u>Water solubility:</u> soluble
<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>Viscosity</u>	No data available
<u>Explosive properties</u>	No data available
<u>Oxidizing properties</u>	Not considered as oxidizing., Structure-activity relationship (SAR)

9.2 Other information

No data available

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 excessive heat for prolonged periods of time.

10.5 Incompatible materials

- Strong oxidizing agents
- Strong reducing agents
- Strong acids
- Strong bases

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Lauryl Betaine

Mouse
Method: OECD Test Guideline 401
category approach
tested on C8-C18
Gavage
Unpublished reports
May be harmful if swallowed.

Myristyl Betaine

Mouse
Method: OECD Test Guideline 401
category approach
tested on C8-C18
Gavage
Unpublished reports
May be harmful if swallowed.

Acute inhalation toxicity

No data available

Acute dermal toxicity

Lauryl Betaine

Rat , male and female
Method: OECD Test Guideline 402
Information given is based on data obtained from similar substances.
Unpublished reports
Occlusive

Myristyl Betaine

Rat , male and female
Method: OECD Test Guideline 402
Information given is based on data obtained from similar substances.
Unpublished reports
Occlusive

Acute toxicity (other routes of administration)

Lauryl Betaine

No data available

Myristyl Betaine

No data available

Skin corrosion/irritation

Lauryl Betaine

Rabbit
Corrosive to skin
Method: OECD Test Guideline 404
category approach
tested on C12-C14
tested on C8-C18
tested on C12
Unpublished reports

Humans
Corrosive to skin
Published data
Unpublished reports

Myristyl Betaine

Rabbit
Corrosive to skin
Method: OECD Test Guideline 404
category approach
tested on C12-C14
tested on C8-C18
tested on C12
Unpublished reports

Humans
Corrosive to skin
category approach
tested on C12
Published data
Unpublished reports

Serious eye damage/eye irritation

Lauryl Betaine

Rabbit
Irreversible effects on the eye
Method: OECD Test Guideline 405
Unpublished reports

Myristyl Betaine

Rabbit
Irreversible effects on the eye
Method: OECD Test Guideline 405
Unpublished reports

Respiratory or skin sensitization

Local lymph node assay - Mouse
Does not cause skin sensitization.
Method: OECD Test Guideline 429
Unpublished internal reports

Buehler Test - Guinea pig
Does not cause skin sensitization.
Method: OECD Test Guideline 406
Occlusive
Unpublished reports

Maximization Test - Guinea pig
Does not cause skin sensitization.
Method: OECD Test Guideline 406
category approach
tested on C12-C14
tested on C8-C18
Occlusive
Unpublished reports

Humans
Does not cause skin sensitization.
category approach
tested on C12
Occlusive
Unpublished reports

Mutagenicity

Genotoxicity in vitro

Lauryl Betaine

Ames test
with and without metabolic activation

negative
Method: OECD Test Guideline 471
category approach
tested on C12-C14
Unpublished reports

Chromosome aberration test in vitro
with and without metabolic activation

negative
Method: OECD Test Guideline 473
category approach
tested on C12-C14
Unpublished reports

Gene mutation assays in mammalian cells.
Strain: Chinese hamster ovary cells
with and without metabolic activation

negative
Method: OECD Test Guideline 476
category approach
tested on C12-C14
Unpublished reports

Myristyl Betaine

Ames test
with and without metabolic activation

negative
Method: OECD Test Guideline 471
category approach
tested on C12-C14
Unpublished reports

Chromosome aberration test in vitro
with and without metabolic activation

negative
Method: OECD Test Guideline 473
category approach
tested on C12-C14
Unpublished reports

Gene mutation assays in mammalian cells.
Strain: Chinese hamster ovary cells
with and without metabolic activation

negative
Method: OECD Test Guideline 476
category approach
tested on C12-C14
Unpublished reports

Genotoxicity in vivo

Lauryl Betaine	No data available
Myristyl Betaine	No data available

Carcinogenicity

Lauryl Betaine	No data available
Myristyl Betaine	No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility

Lauryl Betaine	Reproduction / developmental toxicity screening test - Rat, male and female, Oral Fertility NOEL: 150 mg/kg Method: OECD Test Guideline 422 category approach, Gavage, tested on C12-C14, Unpublished internal reports, No toxicity to reproduction
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Myristyl Betaine	Reproduction / developmental toxicity screening test - Rat, male and female, Oral Fertility NOEL: 150 mg/kg Method: OECD Test Guideline 422 category approach, Gavage, tested on C12-C14, Unpublished internal reports, No toxicity to reproduction
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Developmental Toxicity/Teratogenicity

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Lauryl Betaine
 Rat, male and female, Oral
 General Toxicity Maternal NOEL: 100 mg/kg
 Teratogenicity NOEL:1,000mg/kg
 Method: OECD Test Guideline 414
 category approach, Information given is based on data obtained from similar substances., Gavage, Unpublished reports, Fetal toxicity is not considered to be significant, since it was only observed at doses which also caused maternal toxicity

Myristyl Betaine
 Rat, male and female, Oral
 General Toxicity Maternal NOEL: 100 mg/kg
 Teratogenicity NOEL:1,000mg/kg
 Method: OECD Test Guideline 414
 category approach, Information given is based on data obtained from similar substances., Gavage, Unpublished reports, Fetal toxicity is not considered to be significant, since it was only observed at doses which also caused maternal toxicity

STOT**STOT-single exposure**

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

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

STOT-repeated exposure

Lauryl Betaine
 The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria., internal evaluation
 tested on C8-C18

Myristyl Betaine
 The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria., internal evaluation
 tested on C8-C18

Lauryl Betaine
 Oral 90 Days - Rat , male and female
 NOAEL: >= 145 mg/kg
 Method: OECD Test Guideline 408
 category approach
 tested on C8-C18
 Subchronic toxicity
 Gavage
 Unpublished reports

Myristyl Betaine
 Oral 90 Days - Rat , male and female
 NOAEL: >= 145 mg/kg
 Method: OECD Test Guideline 408
 category approach
 tested on C8-C18
 Subchronic toxicity
 Gavage
 Unpublished reports

Experience with human exposure No data available

Aspiration toxicity No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Lauryl Betaine By analogy
Toxic to fish.
Unpublished reports

Myristyl Betaine By analogy
Toxic to fish.
Unpublished reports

Acute toxicity to daphnia and other aquatic invertebrates

Lauryl Betaine EC50 - 48 h : 5.3 mg/l - Daphnia magna (Water flea)
static test
Method: OECD Test Guideline 202
Toxic to aquatic invertebrates.
Published data

Myristyl Betaine By analogy
Toxic to aquatic invertebrates.
Unpublished reports

Toxicity to aquatic plants

Lauryl Betaine By analogy
Toxic to algae.
Unpublished reports

By analogy
Harmful to algae with long lasting effects.
Unpublished reports

Myristyl Betaine By analogy
Toxic to algae.
Unpublished reports

By analogy
Harmful to algae with long lasting effects.
Unpublished reports

Toxicity to microorganisms

Lauryl Betaine The product itself has not been tested.

Myristyl Betaine The product itself has not been tested.

Chronic toxicity to fish No data available

Chronic toxicity to daphnia and other aquatic invertebrates

Lauryl Betaine By analogy

No adverse chronic effect observed up to and including the threshold of 1 mg / L.
Unpublished reports

Myristyl Betaine

By analogy
No adverse chronic effect observed up to and including the threshold of 1 mg / L.
Unpublished reports

Terrestrial Compartment

Toxicity to soil dwelling organisms

Lauryl Betaine

The product itself has not been tested.

Myristyl Betaine

The product itself has not been tested.

12.2 Persistence and degradability

Abiotic degradation

No data available

Physical- and photo-chemical elimination

No data available

Biodegradation

Biodegradability

Lauryl Betaine

Ready biodegradability study:
Method: OECD Test Guideline 301 B
95.6 % - 28 d
The 10 day time window criterion is fulfilled.
The substance fulfills the criteria for ultimate aerobic biodegradability and ready biodegradability
Theoretical carbon dioxide production
Inoculum: activated sludge
Conc. in standard unit mg / l: 20 mg/l

Myristyl Betaine

Ready biodegradability study:
The substance fulfills the criteria for ultimate aerobic biodegradability and ready biodegradability
By analogy
Unpublished reports

Degradability assessment

Lauryl Betaine

The product is considered to be rapidly degradable in the environment

Myristyl Betaine

The product is considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

No data available

Bioconcentration factor (BCF)

Lauryl Betaine

By analogy
Not potentially bioaccumulable

Myristyl Betaine

By analogy
Not potentially bioaccumulable

12.4 Mobility in soil

Adsorption potential (Koc) No data available

Known distribution to environmental compartments No data available

12.5 Results of PBT and vPvB assessment

Lauryl Betaine This substance is not considered to be persistent, bioaccumulating, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Myristyl Betaine This substance is not considered to be persistent, bioaccumulating, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Ecotoxicity assessment****Short-term (acute) aquatic hazard**

Lauryl Betaine Toxic to aquatic life.

Myristyl Betaine Toxic to aquatic life.

Long-term (chronic) aquatic hazard

Lauryl Betaine Harmful to aquatic life with long lasting effects.

Myristyl Betaine Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal*****Prohibition***

- Do not discharge directly into the environment.
- Dispose of in accordance with local regulations.
- Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging***Prohibition***

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

- 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.

SECTION 14: Transport information

DOT

not regulated

TDG

not regulated

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
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- 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

PRCO90059877

Version : 2.00 / US (Z8)

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New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIOC inventory. The HSNO status of the product has not been assessed.
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay 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.

Additional Information

- for Korea Inventory (KECI) purposes, this product is identified as: Betaines, coco alkylidimethyl (CAS-No. : 68424-94-2)
- for Europe Inventory (REACH) purposes, this product is identified as: Betaines, C12-14 (even numbered)-alkylidimethyl (CAS-No. : Not Assigned)

15.2 Federal Regulations**US. EPA EPCRA SARA Title III****SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)**

Skin corrosion or irritation	Yes
Serious eye damage or eye irritation	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

This material does not contain any components with a CERCLA RQ.

15.3 State Regulations**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

This product can expose you to chemicals including Acetic acid, 2,2-dichloro- (CAS # 79-43-6), which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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www.solvay.com

SECTION 16: Other information**NFPA (National Fire Protection Association) - Classification**

Health	3 serious
Flammability	1 slight
Instability or Reactivity	0 minimal

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

Health	3 serious
Flammability	1 slight
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Product evaluated under the US GHS format.

Date Prepared: 12/12/2019

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

- 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
- BHOT:	Specific Target Organ Toxicity

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.