

MACKAMINE C 8

Revision Date 01/09/2017

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

- Trade name MACKAMINE C 8

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

- Cleaning agent

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 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)**

Serious eye damage, Category 1

H318: Causes serious eye damage.

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

- Danger

Hazard Statements

- H318 Causes serious eye damage.

Precautionary Statements**Prevention**

- P280 Wear eye protection/ face protection.

Response

- 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.

2.3 Other hazards which do not result in classification

- H402: Harmful to aquatic life.

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

- Not applicable, this product is a mixture.

3.2 Mixture

- Chemical nature Octyldimethylamine Oxide

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Octyldimethylamine Oxide	2605-78-9	$\geq 40 - < 42$
Alkyl Amines	7378-99-6	$\geq 0.5 - < 1$
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	$\geq 0.1 - < 0.3$

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	7732-18-5	< 60

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

- Show this material safety data sheet to the doctor in attendance.
- First responder needs to protect himself.
- Place affected apparel in a sealed bag for subsequent decontamination.

In case of inhalation

- Negligible or unlikely exposure pathways
- Move to fresh air in case of accidental inhalation of vapors.
- If symptoms persist, call a physician.

In case of skin contact

- Wash off immediately with plenty of water for at least 15 minutes.
- If a person feels unwell or symptoms of skin irritation appear, consult a physician.
- Remove contaminated clothing and shoes.
- Wash contaminated clothing before re-use.

In case of eye contact

- In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for

- at least 15 minutes.
- If eye irritation persists, consult a specialist.

In case of ingestion

- Do NOT induce vomiting.
- Rinse mouth with water.
- Consult a physician if necessary.

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

- Skin contact may aggravate existing skin disease

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.
- Treat symptomatically.
- There is no specific antidote available.

SECTION 5: Firefighting measures

Flash point > 200 °F (> 93 °C)
closed cup
Flammability class: Will burn

Autoignition temperature no data available

Flammability / Explosive limit no data available

5.1 Extinguishing media**Suitable extinguishing media**

- Dry chemical
- Carbon dioxide (CO₂)
- Foam
- Water spray

Unsuitable extinguishing media

- High volume water jet
- (frothing possible)

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

- Under fire conditions:
- Will burn

Hazardous combustion products:

- On combustion or on thermal decomposition (pyrolysis), releases:
- Carbon oxides
- Nitrogen oxides (NO_x)

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.

Specific fire fighting methods

- Cool containers/tanks with water spray.
- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Standard procedure for chemical fires.
- 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.
- 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 contact with eyes, skin, and respiratory system.
- Keep away from flames and sparks.
- Remove all sources of ignition.
- Ventilate the area.
- Wear suitable protective equipment.
- For personal protection see section 8.
- Stop the leak and if possible, avoid any contact with skin and apparel.

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.
- Do not flush into surface water or sanitary sewer system.
- 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***Methods for containment***

- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.

Recovery

- Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
- Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Never return spills in original containers for re-use.

Decontamination / cleaning

- Wash with plenty of water and detergent.
- Wash nonrecoverable remainder with large amounts of water.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.

Disposal

- 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

- Non-sparking tools should be used.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Handle in accordance with good industrial hygiene and safety practice.
- Avoid splashes.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.
- To safely melt this material, use low pressure steam or place in a heated room
- Avoid localized overheating.
- Vent drums while heating
- Mix thoroughly before use.

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.
- Use clean, well maintained personal protection equipment.

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 container tightly closed in a dry and well-ventilated place.
- Keep away from incompatible materials to be indicated by the manufacturer
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from direct sunlight.
- Keep away from: Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents.

Requirements for storage rooms and vessels

Recommended storage temperature: 41 - 86 °F (5 - 30 °C)

- Low pressure steam or a water bath may be used to melt solidified material
- For further information, refer to section 10: "Stability and Reactivity."

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**

Ingredients	Value type	Value	Basis
Hydrogen peroxide (H ₂ O ₂)	TWA	1 ppm 1.4 mg/m ³	National Institute for Occupational Safety and Health
Hydrogen peroxide (H ₂ O ₂)	TWA	1 ppm	American Conference of Governmental Industrial Hygienists
Hydrogen peroxide (H ₂ O ₂)	TWA	1 ppm 1.4 mg/m ³	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
The value in mg/m ³ is approximate.			

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Ingredients	CAS-No.	Concentration
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	75 ppm

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

Individual protection measures**Respiratory protection**

- 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.
- No personal respiratory protective equipment normally required.

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.

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:
- Safety glasses with side-shields

Skin and body protection

- Protective suit
- Impervious clothing
- Footwear protecting against chemicals

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.
- Use clean, well maintained personal protection equipment.

Protective measures

- 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.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Emergency equipment immediately accessible, with instructions for use.
- The protective equipment must be selected in accordance with current local standards 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>	Form: Aqueous solution Physical state: liquid Color: colorless to pale yellow.
<u>Odor</u>	slight ammonia
<u>Odor Threshold</u>	no data available
<u>pH</u>	7.0 - 9.0 (10 %) (77 °F (25 °C)) Aqueous solution
<u>Melting point/freezing point</u>	no data available
<u>Initial boiling point and boiling range</u>	ca. Boiling point/boiling range: 212 °F (100 °C)
<u>Flash point</u>	> 200 °F (> 93 °C) closed cup Flammability class: Will burn
<u>Evaporation rate (Butylacetate = 1)</u>	< 1
<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>	ca. 20.03 mmHg (26.7 hPa) (77 °F (25 °C))
<u>Vapor density</u>	> 1
<u>Density</u>	
<u>Relative density</u>	0.965 (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>	no data available

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 normal conditions.
- Stable under recommended storage conditions.
- See chapter
- 7. HANDLING AND STORAGE

10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

Polymerization

- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Keep away from flames and sparks.
- Keep away from heat and sources of ignition.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (following the evaporation of water) releases:
- Nitrogen oxides (NO_x)
- (Carbon oxides (CO + CO₂)).

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

LD50 : > 5,000 mg/kg - Rat
Method: OECD Test Guideline 420
Not classified as harmful if swallowed
Unpublished internal reports

Acute inhalation toxicity

Not classified as hazardous for acute inhalation toxicity according to GHS.
According to the data on the components
According to the classification criteria for mixtures.

Acute dermal toxicity

Not classified as hazardous for acute dermal toxicity according to GHS.
According to the data on the components
According to the classification criteria for mixtures.

Acute toxicity (other routes of administration)

no data available

Skin corrosion/irritation

Mild skin irritation
According to the data on the components
According to the classification criteria for mixtures.

Serious eye damage/eye irritation

Risk of serious damage to eyes.
According to the data on the components
According to the classification criteria for mixtures.

Respiratory or skin sensitization

Does not cause skin sensitization.
According to the data on the components
According to the classification criteria for mixtures.

Does not cause respiratory sensitization.
According to the data on the components
According to the classification criteria for mixtures.

Mutagenicity**Genotoxicity in vitro**

According to the data on the components
Product is not considered to be genotoxic
According to the classification criteria for mixtures.

Genotoxicity in vivoHydrogen peroxide (H₂O₂)

In vivo micronucleus test - Mouse
Oral
Method: OECD Test Guideline 474

negative
Unpublished reports

CarcinogenicityHydrogen peroxide (H₂O₂)

no data available

Ingredients	CAS-No.	Rating	Basis
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	Confirmed animal carcinogen with unknown relevance to humans	ACGIH

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**

According to the data on the components
The product is not considered to affect fertility.
According to the classification criteria for mixtures.

Developmental Toxicity/Teratogenicity

According to the data on the components
The product is not considered to be toxic for development.
The product is not considered to be teratogenic.
According to the classification criteria for mixtures.

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 classification criteria for mixtures.

STOT-repeated exposure

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

According to the data on the components
Not considered to cause serious damage to health on repeated exposure
According to the classification criteria for mixtures.

Aspiration toxicity

No aspiration toxicity classification

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

By analogy
Not harmful to fish (LC/LL50 > 100 mg/L)
Information given is based on data obtained from similar products
Unpublished internal reports

Acute toxicity to daphnia and other aquatic invertebrates.

By analogy
Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L)
Information given is based on data obtained from similar products
Unpublished internal reports

Toxicity to aquatic plants

By analogy
Harmful to algae.
Information given is based on data obtained from similar products
Unpublished internal reports

Toxicity to microorganisms

The product itself has not been tested.

Chronic toxicity to fish

The product itself has not been tested.

Chronic toxicity to daphnia and other aquatic invertebrates.

The product itself has not been tested.

Chronic Toxicity to aquatic plants

The product itself has not been tested.

Sediment compartment**Toxicity to benthic organisms**

no data available

Terrestrial Compartment**Toxicity to soil dwelling organisms**

no data available

Toxicity to terrestrial plants

no data available

12.2 Persistence and degradability**Abiotic degradation****Stability in water**

By analogy, Stable, Information given is based on data obtained from similar products, Unpublished internal reports

Physical- and photo-chemical elimination

Physico-chemical removability no data available

Biodegradation

Biodegradability Ready biodegradability study:
Method: OECD Test Guideline 301D
100 % - 28 d
The 10 day time window criterion is fulfilled.
Readily biodegradable.
Inoculum: Sewage effluent
O2 consumption
Unpublished reports

Degradability assessment 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) no data available

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 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 no data available

Ecotoxicity assessment

Acute aquatic toxicity According to the classification criteria for mixtures.
Bridging principle "Dilution".
Harmful to aquatic life.
Expert judgment

Chronic aquatic toxicity According to the classification criteria for mixtures.
Bridging principle "Dilution".
Not classified due to data which are conclusive although insufficient for classification.
Expert judgment

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

- 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.

Prohibition

- Should not be released into the environment.
- Do not let product enter drains.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO

Advice on cleaning and disposal of packaging

- Empty the packaging completely prior to disposal.
- Completely empty the packaging prior to decontamination.
- Carefully drain and then steam clean.
- Offer rinsed packaging material to local recycling facilities.
- Dispose of in accordance with local regulations.

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.

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SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- On TSCA Inventory
Canadian Domestic Substances List (DSL)	- All components of this product are on the Canadian DSL
Australia Inventory of Chemical Substances (AICS)	- Not in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Not in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Not in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- On the inventory, or in compliance with the inventory

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

Fire Hazard	no
Reactivity Hazard	no
Sudden Release of Pressure Hazard	no
Acute Health Hazard	yes
Chronic Health Hazard	no

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)

The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients	CAS-No.	Threshold planning quantity	Remarks
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	1000 lb	Form: >52-100%

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

Ingredients	CAS-No.	Reportable quantity
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	1000 lb
Formaldehyde	50-00-0	100 lb

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

Ingredients	CAS-No.	Reportable quantity
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	1000 lb
Formaldehyde	50-00-0	100 lb

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

Ingredients	CAS-No.	Reportable quantity
Sodium hydroxide (Na(OH))	1310-73-2	1000 lb
Formaldehyde	50-00-0	100 lb

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

WARNING! This product contains a chemical known in the State of California to cause cancer.

Ingredients	CAS-No.
Formaldehyde	50-00-0

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

Health	2 moderate
Flammability	1 slight
Instability or Reactivity	0 minimal

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

Health	2 moderate
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: 01/09/2017

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

- 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

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.