

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 24.01.2019

Version 8.1

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

Catalogue No.	818079
Product name	Methyltrialkylammonium chloride (mixture of C8-C10) for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	63393-96-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number **Please contact the regional company representation in your country.****SECTION 2. Hazards identification****2.1 Classification of the substance or mixture**
Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 3, Oral, H301
Skin irritation, Category 2, H315
Serious eye damage, Category 1, H318
Short-term (acute) aquatic hazard, Category 1, H400
Long-term (chronic) aquatic hazard, Category 1, H410
For the full text of the H-Statements mentioned in this Section, see Section 16.

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Product name

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H318 Causes serious eye damage.

Precautionary statements

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

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2.3 Other hazards

None known.

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SECTION 3. Composition/information on ingredients

3.1 Substance

Formula $\text{CH}_3\text{N}(\text{C}_8\text{-C}_{10} \text{ n-Alkyl})_3\text{Cl}$

EC-No. 264-120-7

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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quaternary ammonium compound, tri-C₈-C₁₀-alkylmethyl, chloride ($\geq 50\%$ - $\leq 100\%$)

63393-96-4	*)	Acute toxicity, Category 3, H301 Skin irritation, Category 2, H315 Serious eye damage, Category 1, H318 Short-term (acute) aquatic hazard, Category 1, H400 Long-term (chronic) aquatic hazard, Category 1, H410
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1-Decanol ($\geq 3\%$ - $< 10\%$)

112-30-1	*)	Eye irritation, Category 2, H319 Long-term (chronic) aquatic hazard, Category 3, H412
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1-octanol ($\geq 3\%$ - $< 10\%$)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

111-87-5	01-2119486978-10-XXXX	Eye irritation, Category 2, H319 Long-term (chronic) aquatic hazard, Category 3, H412
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*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air.

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In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed

Risk of serious damage to eyes.

Irritation and corrosion

Nausea, Vomiting

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:

nitrogen oxides, Hydrogen chloride gas, nitrous gases

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

1-octanol (111-87-5)

Worker DNEL, acute	Systemic effects	dermal	125 mg/kg Body weight
Worker DNEL, acute	Systemic effects	inhalation	220 mg/m ³
Worker DNEL, longterm	Systemic effects	dermal	125 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	220 mg/m ³
Consumer DNEL, acute	Systemic effects	dermal	75 mg/kg Body weight
Consumer DNEL, acute	Systemic effects	inhalation	65 mg/m ³
Consumer DNEL, acute	Systemic effects	oral	75 mg/kg Body weight

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Consumer DNEL, longterm	Systemic effects	dermal	75 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	65 mg/m ³
Consumer DNEL, longterm	Systemic effects	oral	75 mg/kg Body weight

Predicted No Effect Concentration (PNEC)

1-octanol (111-87-5)

PNEC Fresh water	0,2 mg/l
PNEC Marine water	0,02 mg/l
PNEC Sewage treatment plant	5,5 mg/l
PNEC Fresh water sediment	2,1 mg/kg
PNEC Marine sediment	0,21 mg/kg
PNEC Soil	1,6 mg/kg

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	Viton (R)
Glove thickness:	0,70 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 890 Vitoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
protective clothing

Respiratory protection
required when vapours/aerosols are generated.
Recommended Filter type: filter ABEK
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	yellow
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point/boiling range	> 240 °C at 1.013 hPa
Flash point	113 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	< 1,3 hPa
Relative vapour density	No information available.

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Density	0,89 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	10 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

sensitive to moisture

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

10.4 Conditions to avoid

Moisture.

Strong heating.

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

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SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 220 mg/kg

Symptoms: Nausea, Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
(External MSDS)

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

This information is not available.

Skin irritation

Rabbit

Result: Severe irritations

(RTECS)

Causes skin irritation.

Eye irritation

Causes serious eye damage.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12. Ecological information

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12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 2810
14.2 Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (TRIALKYL(C8-C10)METHYL AMMONIUM CHLORIDE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 2810
14.2 Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S. (TRIALKYL(C8-C10)METHYL AMMONIUM CHLORIDE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	yes

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14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 2810

14.2 Proper shipping name TOXIC LIQUID, ORGANIC, N.O.S. (TRIALKYL(C8-C10)METHYL AMMONIUM CHLORIDE)

14.3 Class 6.1

14.4 Packing group III

14.5 Environmentally hazardous yes

14.6 Special precautions for user yes

EmS F-A S-A

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard Legislation	SEVESO III ACUTE TOXIC H2 Quantity 1: 50 t Quantity 2: 200 t SEVESO III ENVIRONMENTAL HAZARDS E1 Quantity 1: 100 t Quantity 2: 200 t
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Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
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Substances of very high concern (SVHC)

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation

Storage class 6.1C

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention
P273 Avoid release to the environment.
P280 Wear eye protection.
Response

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Product name	Methyltrialkylammonium chloride (mixture of C8-C10) for synthesis

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

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

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.