SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Revision Date 24.09.2019 Version 12.2

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Catalogue No.	806538
Product name	Sodium methylate for synthesis
REACH Registration Number	01-2119519241-51-XXXX
CAS-No.	124-41-4

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

Identified uses	Chemical for synthesis In compliance with the conditions described in the annex to this safety data sheet.

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)

Self-heating substances, Category 1, H251
Skin corrosion, Category 1B, H314

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word
Danger

Hazard statements
H251 Self-heating: may catch fire.
H314 Causes severe skin burns and eye damage.
EUH014 Reacts violently with water.

Precautionary statements
Prevention
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.

Index-No. 603-040-00-2

2.3 Other hazards
None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	CH_3ONa	CH_3NaO (Hill)
Index-No.	603-040-00-2	
EC-No.	204-699-5	
Molar mass	54,02 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)
Chemical name (Concentration)

CAS-No.	Registration number	Classification
Sodium methylate (<= 100 %)		

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

124-41-4	01-2119519241-51-XXXX	Self-heating substances, Category 1, H251 Skin corrosion, Category 1B, H314

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. Call in physician.

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

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

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed
Irritation and corrosion, Cough, Shortness of breath
Risk of blindness!

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), Dry powder

Unsuitable extinguishing media
Water, Foam

5.2 Special hazards arising from the substance or mixture
Combustible.
Risk of dust explosion.
Self-ignition possible due to air moisture.
May not get in touch with:
Water
The product reacts with water and generates heat.
Development of hazardous combustion gases or vapours possible in the event of fire.

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: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions
Do not let product enter drains.
Risk of explosion.

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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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.

Keep workplace dry. Do not allow product to come into contact with water.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

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
Dry.

Tightly closed. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

7.3 Specific end use(s)
See exposure scenario in the Annex to this MSDS.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

no data available

Predicted No Effect Concentration (PNEC)

PNEC Fresh water	154 mg/l
PNEC Marine water	15,4 mg/l
PNEC Aquatic intermittent release	1540 mg/l
PNEC Fresh water sediment	570,4 mg/kg
PNEC Marine sediment	57,04 mg/kg
PNEC Soil	23,5 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:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	480 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 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
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 dusts are generated.
Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances
The entrepeneur 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.

Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	powder, finecrystalline
Colour	yellow
Odour	odourless
Odour Threshold	Not applicable
pH	No information available.
Melting point	127 °C (decomposition)
Boiling point	No information available.
Flash point	No information available.
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	at 20 °C low
Relative vapour density	No information available.

Density	ca.1,3 g/cm3 at 20 °C
Relative density	No information available.
Water solubility	at 20 °C (decomposition)
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	Self-heating: may catch fire.
Decomposition temperature	> 126 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	240 °C
Bulk density	500 - 600 kg/m3

SECTION 10. Stability and reactivity

10.1 Reactivity

Risk of dust explosion.
Vapours may form explosive mixture with air.
Self-heating: may catch fire.

10.2 Chemical stability

heat-sensitive
Sensitive to air.
sensitive to moisture

10.3 Possibility of hazardous reactions

can decompose violently in contact with:

Water

Risk of ignition or formation of inflammable gases or vapours with:

Aluminium, Zinc, Acids

Exothermic reaction with:

Oxidizing agents

Risk of explosion with:

Methanol, with, Chloroform

10.4 Conditions to avoid

Strong heating (decomposition).
Moisture.

10.5 Incompatible materials
no information available

10.6 Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity
LD50 Rat: 2.037 mg/kg

(RTECS)

Symptoms: After swallowing: burns in mouth, throat, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Acute dermal toxicity
LD50 Rat: > 2.000 mg/kg
(IUCLID)

Skin irritation
Causes burns.

Eye irritation

Causes serious eye damage.
Risk of blindness!

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

Decomposition of the substance with tissue moisture.
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish
LC50 Leuciscus idus (Golden orfe): 346 mg/l; 48 h
(IUCLID)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): > 10.000 mg/l; 48 h
(IUCLID)

EC5 E.sulcatum: > 10.000 mg/l; 72 h
(Lit.)

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): 8.000 mg/l; 8 d
(IUCLID)

Toxicity to bacteria
EC5 Pseudomonas fluorescens: 6.600 mg/l; 16 h
(IUCLID)

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

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

12.6 Other adverse effects

Additional ecological information
Biological effects:
Forms corrosive mixtures with water even if diluted.
Harmful effect due to pH shift.
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 1431
14.2 Proper shipping name	SODIUM METHYLATE
14.3 Class	4.2 (8)
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1431
14.2 Proper shipping name	SODIUM METHYLATE
14.3 Class	4.2 (8)
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1431
14.2 Proper shipping name	SODIUM METHYLATE
14.3 Class	4.2 (8)
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-A S-L

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 OTHER HAZARDS O1 Quantity 1: 100 t Quantity 2: 500 t
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
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
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 ≥ 0.1 % (w/w).

National legislation

Storage class	4.2

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.

H251	Self-heating: may catch fire.
H314	Causes severe skin burns and eye damage.

Training advice
Provide adequate information, instruction and training for operators.

Labelling
Hazard pictograms

Signal word
Danger

Hazard statements
H251 Self-heating: may catch fire.
H314 Causes severe skin burns and eye damage.
EUH014 Reacts violently with water.

Precautionary statements
Prevention
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
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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.

EXPOSURE SCENARIO 1 (Industrial use)

1. Industrial use Chemical for synthesis)

Sectors of end-use

SU 3	Industrial uses: Uses of substances as such or in preparations at industrial sites
SU9	Manufacture of fine chemicals
SU 10	Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

Chemical product category

PC19	Intermediate
PC21	Laboratory chemicals

Process categories

PROC1	Use in closed process, no likelihood of exposure
PROC8a	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC15	Use as laboratory reagent

Environmental Release Categories

ERC1	Manufacture of substances
ERC2	Formulation of preparations
ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC6a	Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b	Industrial use of reactive processing aids

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling worker exposure for: PROC1, PROC8a, PROC8b, PROC9, PROC15

Technical conditions and measures

Provide extraction ventilation at points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves (tested to EN374), coverall and eye protection. Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard Assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.1	PROC1			Qualitative assessment
2.1	PROC8a			Qualitative assessment
2.1	PROC8b			Qualitative assessment
2.1	PROC9			Qualitative assessment
2.1	PROC15			Qualitative assessment

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

EXPOSURE SCENARIO 2 (Professional use)

1. Professional use Chemical for synthesis)

Sectors of end-use
SU 22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category
PC21 Laboratory chemicals

Process categories
PROC15 Use as laboratory reagent

Environmental Release Categories
ERC2 Formulation of preparations
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b Industrial use of reactive processing aids

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling worker exposure for: PROC15

Technical conditions and measures
Provide extraction ventilation at points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves (tested to EN374), coverall and eye protection. Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation and reference to its source

Environment
A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard Assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.1	PROC15			Qualitative assessment

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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