

SAFETY DATA SHEET

Nitroso/Nitramines, Individual Compounds (1000 µg/mL), in Methanol V

SECTION 1: Identification

1.1. Product identifier

Trade name

Nitroso/Nitramines, Individual Compounds (1000 µg/mL), in Methanol V

Product no.

C14215.5/CRM14215.5, C14465.5, C14504.5/CRM14504.5

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

Relevant identified uses of the substance or mixture

Laboratory use

Restricted to professional users.

Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company and address

Chiron AS

Arkitekt Ebbells veg 26

N-7041 TRONDHEIM

Contact person

Solveig Bye Hauge

E-mail

hms@chiron.no

SDS date

11/27/2024

SDS Version

1.0

1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® ([triage.webpoisoncontrol.org](https://www.webpoisoncontrol.org)) to get specific guidance for your case

See also section 4 "First aid measures".

SECTION 2: Hazard(s) identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.1. Classification of the substance or mixture

Flam. Liq. 2; H225, Highly flammable liquid and vapour.

Acute Tox. 3; H301, Toxic if swallowed.

Acute Tox. 3; H311, Toxic in contact with skin.

Acute Tox. 3; H331, Toxic if inhaled.

Carc. 2; H351, Suspected of causing cancer.

Repr. 2; H361, Suspected of damaging fertility or the unborn child.

STOT SE 1; H370, Causes damage to organs.

2.2. Label elements

Hazard pictogram(s)



Signal word

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

Danger

Hazard statement(s)

Highly flammable liquid and vapour. (H225)
 Toxic if swallowed, in contact with skin or if inhaled. (H301+H311+H331)
 Suspected of causing cancer. (H351)
 Suspected of damaging fertility or the unborn child. (H361)
 Causes damage to organs. (H370)

Precautionary statement(s)

General

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Prevention

Obtain special instructions before use. (P201)
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)
 Keep container tightly closed. (P233)
 Do not breathe vapour/mist. (P260)
 Wash hands and exposed skin thoroughly after handling. (P264)
 Wear face protection/protective gloves/protective clothing. (P280)

Response

IF SWALLOWED: Immediately call a POISON CENTER/doctor. (P301+P310)
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)
 IF exposed or concerned: Call a POISON CENTER/doctor (P308+P311)
 IF exposed or concerned: Get medical advice/attention. (P308+P313)
 Call a doctor/POISON CENTER. (P311)
 Rinse mouth. (P330)
 Take off immediately all contaminated clothing and wash it before reuse. (P361+P364)
 In case of fire: Use water mist/carbon dioxide/alcohol-resistant foam to extinguish. (P370+P378)

Storage

Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
 Store in a well-ventilated place. Keep cool. (P403+P235)

Disposal

Dispose of contents/container in accordance with local regulation
 (P501)

Additional labelling

Not applicable.

Labeling of packaging with a maximum content of 100 ml

Hazard pictogram(s)



Signal word

Danger

2.3. Other hazards

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
Methanol	CAS No.: 67-56-1	≥99.8%	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370 (SCL: 10.00 %)	
4-(Methylnitrosoamino)butanoic	CAS No.: 61445-55-4	<0.2%	Acute Tox. 3, H301 Skin Irrit. 2, H315	

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

acid			Eye Dam. 1, H318 STOT SE 3, H335 Carc. 2, H351 Repr. 2, H361
4-(Methylnitrosoamino)-butanoic acid-d3	CAS No.: 1184996-41-5	<0.2%	Acute Tox. 3, H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Carc. 2, H351 Repr. 2, H361
4-(Methylnitrosoamino)butanoic acid-d9	CAS No.:	<0.2%	Acute Tox. 3, H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Carc. 2, H351 Repr. 2, H361

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: First-aid measures

4.1. Description of first aid measures

General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the injured person into fresh air. Make sure the injured person is continuously monitored. Prevent shock by keeping the injured person warm and calm. If breathing ceases, give mouth-to-mouth resuscitation. If unconscious, roll the injured person into recovery position. Call an ambulance.

Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

If skin irritation occurs: Get medical advice/attention.

Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

Ingestion

In the case of ingestion, contact a doctor immediately. If the person is conscious, give them water. DO NOT try to induce vomiting unless this is recommended by a doctor. Hold head facing down to prevent vomit from returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

Burns

Rinse with water until pain stops then continue to rinse for 30 minutes.

4.2. Most important symptoms and effects, both acute and delayed

Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin,

sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

4.3. Indication of any immediate medical attention and special treatment needed

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Highly flammable liquid and vapour.

In use may form flammable/explosive vapour-air mixture.

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Carbon oxides (CO / CO₂)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Storages not yet ignited must be cooled by water mist. Remove flammable materials if conditions allow it. Ensure sufficient ventilation.

Avoid direct contact with spilled substances.

Ensure adequate ventilation, especially in confined areas.

Avoid inhalation of vapours from spilled material.

Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

6.3. Methods and material for containment and cleaning up

Limit spillage and collect using granular absorbent or similar materials, and dispose of it in accordance with the regulations on dangerous waste.

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/lighting/ventilating] equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Avoid direct contact with the product.

Avoid contact during pregnancy and while nursing.

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. A sign warning of toxic materials shall be affixed the room and cupboard containing the product(s). Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Take action to prevent static discharges.

Must be stored in a cool and well-ventilated area, away from possible sources of ignition.

Recommended storage material

Glass

Liquid class

Flammable liquid / Class IB (NFPA 30)

Storage conditions

Freezer , -18 to -24°C

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Methanol

Short term exposure limit (STEL) (ACGIH TLV) (ppm): 250

Short term exposure limit (STEL) (NIOSH REL) (ppm): 250

Long term exposure limit (OSHA Table Z-1) (mg/m³): 260

Long term exposure limit (OSHA Table Z-1) (ppm): 200

Long term exposure limit (ACGIH TLV) (ppm): 200

Part 1910 - Occupational Safety and Health Standards (29 CFR 1910.1000 TABLE Z-1 - Limits for Air Contaminants)

8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.

Apply standard precautions during use of the product. Avoid inhalation of vapours.

Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.

Individual protection measures, such as personal protective equipment

Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.


Respiratory Equipment

Work situation	Type	Class	Colour	Standards
In case of inadequate ventilation	AX		Brown	EN14387






Skin protection


Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

Hand protection

Work situation	Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
In the event of prolonged exposure or high concentrations	Butyl	0,7	> 480	EN374-2, EN374-3, EN388, EN421	
When there is risk of splash- / intermittent exposure	Fluoropolymer elastomer (e.g. Viton®)	0,7	> 120	EN374-2, EN374-3, EN388	
	Gloves	-	-	EN374	

Eye protection

Type	Standards	
Face shield alternatively safety glasses with side shields.	EN166	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Color

Transparent

Odor

Sharp/pungent

Odor threshold (ppm)

No data available

pH

No data available

Density (g/cm³)

0.7923 (25 °C)

Relative density

0.79 - 0.8

Kinematic viscosity

0.54 - 0.59 mm²/s (20 °C)

Dynamic viscosity

0.544 - 0.59 mPa.s (25 °C)

Particle characteristics

Not applicable - product is a liquid

Phase changes

Melting point/freezing point (°F)

-

Melting point/freezing point (°C)

-97.8

Softening point/range (°F)

Does not apply to liquids.

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

Boiling point (°F)

-

Boiling point (°C)

64.7

Vapor pressure

16.927 kPa (25 °C)

Relative vapor density

1.11

Decomposition temperature (°F)

Not applicable

Data on fire and explosion hazards

Flash point (°F)

-

Flash point (°C)

9.7

Flammability (°F)

The material is ignitable.

Auto-ignition temperature (°F)

-

Auto-ignition temperature (°C)

455

Explosion limits (% v/v)

5.5 - 44

Solubility

Solubility in water

Completely soluble (1.000 g/L @ 20 °C)

n-octanol/water coefficient (LogKow)

-0.77

Solubility in fat (g/L)

No data available

9.2. Other information

Evaporation rate (n-butylacetate = 100)

No data available

Other physical and chemical parameters

No data available.

Oxidizing properties

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies

None known.

10.4. Conditions to avoid

Avoid static electricity.

Do not expose to any forms of heat (e.g. solar radiation). May lead to excess pressure.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

Acute toxicity

Product/substance: Methanol
Species: Rat
Route of exposure: Oral
Test: LD50
Result: 5628 mg/kg

Product/substance: Methanol
Species: Rabbit
Route of exposure: Dermal
Test: LD50
Result: 15800 mg/kg

Product/substance: Methanol
Species: Rat
Route of exposure: Inhalation
Test: LC50
Result: 64000 mg/kg

Product/substance: Methanol
Species: Rat
Route of exposure: Inhalation
Test: LC50
Result: 85.3 mg/l

Toxic if swallowed.
Toxic in contact with skin.
Toxic if inhaled.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

STOT-single exposure

Causes damage to organs.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Long term effects

Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

Other information

None known.

SECTION 12: Ecological information

12.1. Toxicity

Product/substance: Methanol

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

Species: Fish, *Poecilia reticulata*
 Test: LC50
 Result: 11.5 mg/l

Product/substance Methanol
 Species: Algae, *Chlorella pyrenoidosa*
 Test: EC50
 Result: 3.6 mg/l

Product/substance Methanol
 Species: Crustacean, *Daphnia magna*
 Test: EC50
 Result: > 10000 mg/l

12.2. Persistence and degradability

Product/substance Methanol
 Result: 100 %
 Conclusion: Readily biodegradable

12.3. Bioaccumulative potential

Product/substance Methanol
 Conclusion: No potential for bioaccumulation

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Other adverse effects

None known.

SECTION 13: Disposal considerations


RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)

Methanol is listed with EPA Hazardous Waste Number: U154





Specific labelling

Contaminated packing

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
DOT	UN1230	METHANOL	Transport hazard class: 3 Label: 3+6.1 Classification code: FT1 	II	No	Limited quantities: 1 L Tunnel restriction code: (D/E) See below for additional information.
IMDG	UN1230	METHANOL	Transport hazard class: 3 Label: 3+6.1 Classification code: FT1	II	No	Limited quantities: 1 L EmS: F-E S-

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
		 			D See below for additional information .
IATA	UN1230 METHANOL	Transport hazard class: 3 Label: 3+6.1 Classification code: FT1  	II	No	See below for additional information .

* Packing group

** Environmental hazards

Additional information

This product is within scope of the regulations of transport of dangerous goods.

Although this product is environmentally hazardous, the environmentally hazardous substance mark has been omitted as the product is supplied in packaging with a maximum quantity of 5 L / 5 kg.

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DOT / See § 172.101 Hazardous Materials Table for any information on special provisions, requirements, or warnings in connection with transport. See § 172.602, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to IMO instruments

No data available.

SECTION 15: Regulatory information

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

15.2. U.S. Federal regulations

TSCA (the non-confidential portion)

Methanol is listed

Clean Air Act

Methanol is regulated as a hazardous air pollutant (HAPS)

EPCRA Section 302

None of the components are listed

EPCRA Section 304

None of the components are listed

EPCRA section 313

Methanol is listed

CERCLA

Methanol is regulated with a Reportable Quantity (RQ) of: 5000 pounds

Hazardous chemical inventory reporting

This product is subject to Tier II reporting.

State regulations

California / Prop. 65

Methanol is known to cause: Developmental Toxicity

NSRL/MADL (µg/day): 47,000 (inhalation) 23,000 (oral)

—
Massachusetts / Right To Know Act

Methanol is listed

New Jersey / Right To Know Act

Methanol / Substance number: 1222

Methanol is on the Special Health Hazard Substance List

—
New York / Right To Know Act

Methanol is listed

Methanol is regulated with a Reportable Quantity (RQ) of: 5000 pounds

Methanol is regulated with a Treshold Reporting Quantity (TRQ) of: 10 pounds

—
Pennsylvania / Right To Know Act

Methanol is listed

Methanol is hazardous to the environment (E)

—
15.4. Restrictions for application

Restricted to professional users.

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

15.5. Demands for specific education

No specific requirements.

15.6. Additional information

Not applicable.

15.7. Chemical safety assessment

No

15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H225, Highly flammable liquid and vapour.

H301, Toxic if swallowed.

H311, Toxic in contact with skin.

H315, Causes skin irritation.

H318, Causes serious eye damage.

H331, Toxic if inhaled.

H335, May cause respiratory irritation.

H351, Suspected of causing cancer.

H361, Suspected of damaging fertility or the unborn child.

H370, Causes damage to organs.

The full text of identified uses as mentioned in section 1

None known.

Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances

EPCRA = Emergency Planning and Community Right-To-Know Act

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HCS = Hazardous Chemical Information System

HNOC = Hazards Not Otherwise Classified

IARC = International Agency for Research on Cancer

Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2024)

IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NFPA = National Fire Protection Association
NIOSH = National Institute for Occupational Safety and Health
OECD = Organisation for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
PBT = Persistent, Bioaccumulative and Toxic
RCRA = Resource Conservation and Recovery Act
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SARA = Superfund Amendments and Reauthorization Act
SCL = A specific concentration limit.
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TSCA = The Toxic Substances Control Act
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by HCS (29 CFR 1910.1200).

The classification of the mixture in regard to physical hazards has been based on experimental data.

The safety data sheet is validated by

Reidun Vadla

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

Country-language: US-en