

SAFETY DATA SHEET

Nitroso/Nitramines, Individual Compounds (≤ 100 µg/mL), in Acetonitrile II

SECTION 1: Identification

1.1. Product identifier

Trade name

Nitroso/Nitramines, Individual Compounds (≤ 100 µg/mL), in Acetonitrile II

Product no.

C9012.3, C9840.4, C9948.4, C10122.3, C9019.4/CRM9019.4

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. 4; H302, Harmful if swallowed.

Acute Tox. 4; H312, Harmful in contact with skin.

Eye Irrit. 2; H319, Causes serious eye irritation.

Acute Tox. 4; H332, Harmful if inhaled.

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)
Harmful if swallowed, in contact with skin or if inhaled. (H302+H312+H332)
Causes serious eye irritation. (H319)

Precautionary statement(s)

General

-

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)
Keep container tightly closed. (P233)
Avoid breathing mist/vapour. (P261)
Wash hands thoroughly after handling. (P264)
Use only outdoors or in a well-ventilated area. (P271)
Wear face protection/protective gloves/protective clothing. (P280)

Response

IF ON SKIN: Wash with plenty of water and soap. (P302+P352)
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
Call a POISON CENTER/doctor if you feel unwell. (P312)
If eye irritation persists: Get medical advice/attention. (P337+P313)
Take off contaminated clothing and wash it before reuse. (P362+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 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
Acetonitrile	CAS No.: 75-05-8	≥99.9%	Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Eye Irrit. 2, H319 Acute Tox. 4, H332	
1,4-Dinitrosopiperazine-d8	CAS No.: 69340-07-4	<0.1 %	Acute Tox. 3, H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Carc. 1B, H350	

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

N-Nitrosopiperazine-d8	CAS No.: 1330180-56-7	<0.1%	Skin Corr. 1B, H314 Skin Sens. 1, H317 Resp. Sens. 1, H334 Carc. 2, H351 Repr. 2, H361
N-Nitrosodiethanolamine-d8	CAS No.: 1173019-53-8	<0.1%	Carc. 1B, H350
N-Nitrososarcosine-d3	CAS No.: 1189871-94-0	<0.1%	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

-

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

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

Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.

If skin irritation occurs: Get medical advice/attention.

Eye contact

If in eyes: Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Remove contact lenses. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

Ingestion

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Rinse mouth.

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

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

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 eye irritation persists: Get 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:

Nitrogen oxides (NO_x)

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

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

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

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

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

Acetonitrile

Long term exposure limit (OSHA Table Z-1) (mg/m³): 70

Long term exposure limit (OSHA Table Z-1) (ppm): 40

Long term exposure limit (ACGIH TLV) (ppm): 20

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

No specific requirements.

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	A	Class 2 (medium capacity)	Brown	EN14387





Skin protection

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




Hand protection

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

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	Neoprene (Neoprene)	0,6	> 30	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

Characteristic

Odor threshold (ppm)

No data available

pH

No data available

Density (g/cm³)

No relevant or available data due to the nature of the product.

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Relative density

0.7844

Kinematic viscosity

No data available

Dynamic viscosity

0.35 mPa.s (20 °C)

Particle characteristics

Not applicable - product is a liquid

Phase changes

Melting point/freezing point (°F)

-

Melting point/freezing point (°C)

-45.7

Softening point/range (°F)

Does not apply to liquids.

Boiling point (°F)

-

Boiling point (°C)

81 - 82

Vapor pressure

98.64 hPa (20 °C)

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

Relative vapor density

1.11

Decomposition temperature (°F)

Not applicable

Data on fire and explosion hazards

Flash point (°F)

-

Flash point (°C)

12.8

Flammability (°F)

The material is not combustible.

Auto-ignition temperature (°F)

-

Auto-ignition temperature (°C)

524

Explosion limits (% v/v)

4.4 - 16

Solubility

Solubility in water

Completely soluble (1 000 g/L @ 25 °C)

n-octanol/water coefficient (LogKow)

-0.34

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.

Surface tension (mN/m)

29.0

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

Acute toxicity

Product/substance	Acetonitrile
Test method:	OECD 401
Species:	Mouse, male/female
Route of exposure:	Oral

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

Test: LD50
Result: 469 - 765 mg/kg bw

Product/substance: Acetonitrile
Test method: OECD 403
Species: Mouse, male/female
Route of exposure: Inhalation
Test: LC50 (4 hours)
Result: 3587 ppm

Product/substance: Acetonitrile
Test method: OECD 402
Species: Rabbit, New Zealand White, male/female
Route of exposure: Dermal
Test: LD50
Result: > 2000 mg/kg bw

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

Skin corrosion/irritation

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

Serious eye damage/irritation

Causes serious eye irritation.

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

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

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

Product/substance: Acetonitrile
Species: Rat
Route of exposure: Inhalation
Test: NOAEC
Result: 400 ppm

Product/substance: Acetonitrile
Species: Mouse
Route of exposure: Inhalation
Test: NOAEC
Result: 200 - 400 ppm

Aspiration hazard

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

Long term effects

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.
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: Acetonitrile
Species: Fish, Pimephales promelas
Compartment: Freshwater
Duration: 96 hours
Test: LC50
Result: 1640 mg/L

Product/substance: Acetonitrile
Species: Crustacean, Artemia salina
Compartment: Marine water
Duration: 24 hours
Test: LC50
Result: 400 - 641 mg/L

Product/substance: Acetonitrile
Species: Algae, Microcystis aeruginosa
Compartment: Freshwater
Duration: 72 hours
Test: EC50
Result: 520 mg/L

Product/substance: Acetonitrile
Species: Algae
Compartment: Marine water
Duration: 72 hours
Test: NOEC
Result: 400 mg/L

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

Product/substance: Acetonitrile
BCF: 0,35
Conclusion: -

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)

Acetonitrile is listed with EPA Hazardous Waste Number: U003




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 informatio n:
DOT	UN1648	ACETONITRILE	Transport hazard class: 3	II	No	Limited

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:
		Label: 3 Classification code: F1 			quantities: 1 L Tunnel restriction code: (D/E) See below for additional information.
IMDG	UN1648 ACETONITRILE	Transport hazard class: 3 Label: 3 Classification code: F1 	II	No	Limited quantities: 1 L EmS: F-E S-D See below for additional information.
IATA	UN1648 ACETONITRILE	Transport hazard class: 3 Label: 3 Classification code: F1 	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)

Acetonitrile is listed

Clean Air Act

Acetonitrile 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

Acetonitrile is listed

CERCLA

Acetonitrile 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

None of the components are listed

Massachusetts / Right To Know Act

Acetonitrile is listed

New Jersey / Right To Know Act

Acetonitrile / Substance number: 0008

Acetonitrile is on the Special Health Hazard Substance List

New York / Right To Know Act

Acetonitrile is listed

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

Acetonitrile is regulated with a Threshold Reporting Quantity (TRQ) of: 0 pounds

Pennsylvania / Right To Know Act

Acetonitrile is listed

Acetonitrile 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.

H302, Harmful if swallowed.

H312, Harmful in contact with skin.

H314, Causes severe skin burns and eye damage.

H315, Causes skin irritation.

H317, May cause an allergic skin reaction.

H318, Causes serious eye damage.

H319, Causes serious eye irritation.

H332, Harmful if inhaled.

H334, May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335, May cause respiratory irritation.

H350, May cause cancer.

H351, Suspected of causing cancer.

H361, Suspected of damaging fertility or the unborn child.

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

HCIS = Hazardous Chemical Information System

HNOC = Hazards Not Otherwise Classified

IARC = International Agency for Research on Cancer

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