

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



GUANIDINE M50

Version 6.3 / REG_EU
Revision Date: 07.08.2020

Specification: 132391
Material no.:

Date of first issue: 07.08.2020
Print Date: 08.08.2020

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

1.1 Product identifier

Trade name : GUANIDINE M50
Registration number : 01-2120110070-84-0000

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

Use of the Sub-stance/Mixture : Intermediate, Raw material for industrial use

1.3 Details of the supplier of the safety data sheet

Company : AlzChem Trostberg GmbH
Dr.-Albert-Frank-Str. 32
83308 Trostberg, Germany
Telephone : +49 8621 86-3351
E-mail address of person responsible for the SDS : alz-pst@alzchem.com

1.4 Emergency telephone number

Emergency telephone number : +49 8621 86-2776
AlzChem Trostberg GmbH, Fire Brigade

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 3	H311: Toxic in contact with skin.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Specific target organ toxicity - single exposure, Category 1	H370: Causes damage to organs.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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- Hazard pictograms : 
- Signal word : Danger
- Hazard statements : H225 Highly flammable liquid and vapour.
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H370 Causes damage to organs.
- Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
- Response:**
P310 Immediately call a POISON CENTER/ doctor.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Storage:**
P405 Store locked up.

2.3 Other hazards

A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out
Vapours can form explosive mixtures with air.
Is absorbed through the skin.
May cause blindness if swallowed.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical nature : 50% solution of guanidine (CAS-No.:113-00-8) in methanol

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Guanidine	113-00-8	50

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	204-021-8	
methanol	67-56-1	50
	200-659-6	

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Helpers must protect themselves and bring victims out of hazard area.
Immediate medical attention is required.
Remove contaminated or soaked clothing immediately and dispose of safely.
- If inhaled : Bring affected person outside and ensure that he/she is comfortable.
Oxygen or artificial respiration if needed.
- In case of skin contact : Wash off with plenty of water and soap immediately. Call a physician immediately.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
Remove contact lenses if this can be easily done.
Immediate further treatment in ophthalmic hospital/ ophthalmologist.
- If swallowed : Do NOT induce vomiting.
Rinse out mouth.
Drink 1 or 2 glasses of water.
Should vomiting occur, be sure to keep victim's head below hips to avoid aspiration of vomitus into the lungs.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Nausea
headache
Vomiting
Dizziness
blurred vision
- Risks : Ingestion may lead to blindness.
Inhalation of high concentrations of solvent vapors may have narcotic effects.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Therapy as for methanol.
Antidote treatment: ethanol.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray, foam, CO₂, dry powder.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon oxides
Ammonia

5.3 Advice for firefighters

Special protective equipment for firefighters : In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

Further information : Flash back possible over considerable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment; see section 8.
Remove all sources of ignition. Ventilate the area.

6.2 Environmental precautions

Environmental precautions : Product or extinguishing water with product must not be allowed to enter soil, sewers or natural bodies of water.
Shut off source of leak if safe to do so.
Avoid penetration into drainage system or in rooms situated at a lower level because of danger of explosion.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Remove all sources of ignition.
Ventilate room thoroughly
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

|| For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : The substance must be handled under strictly controlled conditions according to Article 18 of the REACH regulation.
If possible, use material transfer/filling, metering and blending

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plants that are closed, or provide for local suction devices.
Do not allow individual / bulk containers to stand open
Avoid formation of aerosol.

Advice on protection against fire and explosion : Vapours can form explosive mixtures with air. Protect from sunlight, warmth and heat. Keep away from combustion sources such as sparks, flames and unprotected light sources
Take precautionary measures against static discharges. Use explosion-proof equipment. Earth all equipment

Hygiene measures : Do not inhale vapours / aerosols. Contact with skin, eyes and clothes must be strictly avoided Wash contact areas after handling. Take off clothing and shoes contaminated with product. Clean before reuse. Do not eat, drink or smoke while working. Wash hands, and/or face before breaks and when workday is finished. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep locked up.

Further information on storage conditions : Cover with dry inert gas.

Storage class (TRGS 510) : 3, Flammable liquids

7.3 Specific end use(s)

Specific use(s) : We are unaware of any specific end uses which go beyond the data reported in Section 1.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
methanol	67-56-1	TWA	200 ppm 260 mg/m ³	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			

8.2 Exposure controls

Personal protective equipment

Eye protection : Tightly fitting safety goggles

Hand protection

Material : Chloroprene, Recommendation: Camapren 722

Break through time : > 30 min

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Glove thickness	: 0,6 mm
Directive	: DIN EN 374
Manufacturer	: Kächele-Cama Latex GmbH (KCL), Germany
Material	: Butyl-rubber, Recommendation: Butoject 898
Break through time	: > 480 min
Glove thickness	: 0,7 mm
Directive	: DIN EN 374
Manufacturer	: Kächele-Cama Latex GmbH (KCL), Germany
Skin and body protection	: Protective clothing If intensive contact with the hazardous material cannot be avoided with certainty, order (depending on the hazard involved) additional protective measures for example chemical protective suit.
Respiratory protection	: In case of unavoidable exposed handling or if larger amounts are released (leakage, spillage): Suitable filter: AX, code colour brown Note time limit for wearing respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: colourless to slightly yellow
pH	: 12,1 (20 °C)
Melting point/range	: no data available
Boiling point/boiling range	: 65 °C (1.013 hPa)
Flash point	: 11 °C
Upper explosion limit / upper flammability limit	: 44 %(V)
Lower explosion limit / Lower flammability limit	: 5,5 %(V)
Vapour pressure	: 128 hPa (20 °C)
Density	: 1 g/cm ³ (20 °C)
Solubility(ies) Water solubility	: of very high solubility
Auto-ignition temperature	: 455 °C (1013 hPa)
Decomposition temperature	: no data available

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Viscosity
Viscosity, dynamic : 100 mPa.s (25 °C)

9.2 Other information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Hydrolysis at higher temperatures.

10.4 Conditions to avoid

Conditions to avoid : temperatures > 30 °C

Keep away from heat and sources of ignition.

10.5 Incompatible materials

Materials to avoid : Acids
Water
Bases
Oxidizing agents

10.6 Hazardous decomposition products

decomposition products In the case of fire
see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Assessment: Toxic if swallowed.

Acute inhalation toxicity : Assessment: Toxic if inhaled.

Acute dermal toxicity : Assessment: Toxic in contact with skin.

Components:

Guanidine:

Acute oral toxicity : Assessment: Harmful if swallowed.

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methanol:

Acute oral toxicity : 100 mg/kg
Assessment: Toxic if swallowed.
Remarks: literature

Acute inhalation toxicity : LC50 (Rat): 6,0 mg/l
Test atmosphere: vapour
Assessment: Toxic if inhaled.
Remarks: literature

Acute dermal toxicity : 300 mg/kg
Assessment: Toxic in contact with skin.
Remarks: literature

Skin corrosion/irritation

Product:

Result : Causes burns.

Components:

Guanidine:

Assessment : Causes severe skin burns and eye damage.

methanol:

Assessment : Based on available data, the classification criteria are not met.
Remarks : IUCLID

Serious eye damage/eye irritation

Product:

Assessment : Causes serious eye damage.

Components:

Guanidine:

Assessment : Causes serious eye damage.

methanol:

Assessment : Based on available data, the classification criteria are not met.
Remarks : IUCLID

Respiratory or skin sensitisation

Components:

methanol:

Assessment : Based on available data, the classification criteria are not met.
Remarks : IUCLID

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Germ cell mutagenicity

Components:

Guanidine:

Germ cell mutagenicity- Assessment : no evidence of mutagenic effects
Remarks: Literature, IUCLID

methanol:

Germ cell mutagenicity- Assessment : Based on available data, the classification criteria are not met.
Remarks: IUCLID

Carcinogenicity

Components:

Guanidine:

Carcinogenicity - Assessment : No evidence that cancer may be caused.
Remarks: Literature, IUCLID

methanol:

Carcinogenicity - Assessment : Based on available data, the classification criteria are not met.
Remarks: IUCLID

Reproductive toxicity

Components:

Guanidine:

Reproductive toxicity - Assessment : No indications of effects of reproductive / developmental toxicity.
Remarks: Literature, IUCLID

methanol:

Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.
Remarks: IUCLID

STOT - single exposure

Product:

Assessment : Causes damage to organs.

Components:

methanol:

Assessment : Causes damage to organs.
Remarks : Literature, IUCLID

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STOT - repeated exposure

Components:

methanol:

Assessment : Based on available data, the classification criteria are not met.
Remarks : IUCLID

Aspiration toxicity

Components:

methanol:

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

Further information

Product:

Remarks : No additional toxicological data are available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

methanol:

Toxicity to fish : (Lepomis macrochirus (Bluegill sunfish)): 15400 mg/l
Test Type: LC50
Remarks: IUCLID

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18260 mg/l
Exposure time: 96 h
Remarks: IUCLID

Ecotoxicology Assessment

Acute aquatic toxicity : Based on available data, the classification criteria are not met.

Chronic aquatic toxicity : Based on available data, the classification criteria are not met.

12.2 Persistence and degradability

Components:

methanol:

Biodegradability : Result: readily biodegradable
Remarks: IUCLID

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12.3 Bioaccumulative potential

Components:

methanol:

Partition coefficient: n-
octanol/water : log Pow: -0,77
Remarks: IUCLID

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : A PBT/vPvB evaluation is not available, since a chemical safety evaluation is not required / has not been carried out.

12.6 Other adverse effects

Product:

Additional ecological information : Prevent penetration into soil, stretches of water and drainage systems.
No further ecotoxicological data are available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Must be brought to an adequate waste treatment facility, in conformity with applicable waste disposal regulations.

Contaminated packaging : Packaging, that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3286
RID : UN 3286
IMDG : UN 3286
IATA (Cargo) : UN 3286

14.2 UN proper shipping name

ADR : FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
(contains methanol, Guanidine)

RID : FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
(contains methanol, Guanidine)

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IMDG : FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
(contains methanol, Guanidine)

IATA (Cargo) : Flammable liquid, toxic, corrosive, n.o.s.
(contains methanol, Guanidine)

14.3 Transport hazard class(es)

ADR : 3

RID : 3

IMDG : 3

IATA (Cargo) : 3

14.4 Packing group

Remarks : Keep separate from foodstuffs, luxury foods, feedstuffs

ADR

Packing group : II
Classification Code : FTC
Hazard Identification Number : 368
Labels : 3 (6.1, 8)
Tunnel restriction code : (D/E)

RID

Packing group : II
Classification Code : FTC
Hazard Identification Number : 368
Labels : 3 (6.1, 8)

IMDG

Packing group : II
Labels : 3 (6.1, 8)
EmS Code : F-E, S-C
Remarks : Clear of living quarters.
Segregation as for class 3 but "Away from" class 4.1.
IMDG Code segregation group 10 - Liquid halogenated hydrocarbons
IMDG Code segregation group 18 - Alkalis
Keep separate from foodstuffs, luxury foods, feedstuffs

IATA (Cargo)

Packing instruction (cargo aircraft) : 363
Packing instruction (LQ) : Y340
Packing group : II
Labels : Flammable Liquids, Toxic, Corrosive
Remarks : ERG-Code 3CP
Keep separate from foodstuffs, luxury foods, feedstuffs

IATA (Passenger)

Packing instruction (passenger aircraft) : 352
Packing instruction (LQ) : Y340

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Packing group : II
Labels : Flammable Liquids, Toxic, Corrosive
Remarks : ERG-Code 3CP

14.5 Environmental hazards

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

Remarks : Keep separate from foodstuffs, luxury foods, feedstuffs

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

15.2 Chemical safety assessment

No substance safety assessment is required for this product because it is an internal local intermediate product and/or a transported intermediate product.

SECTION 16: Other information

Full text of other abbreviations

2006/15/EC : Europe. Indicative occupational exposure limit values
2006/15/EC / TWA : Limit Value - eight hours

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equip-

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ment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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