

SAFETY DATA SHEET

Dimethylacetamide (DMAc)

CHINA
AMINES

Version 1.2 PRD Revision Date: 22.02.2022 SDS Number: 150000103647 SDSAU / EN / 0001 Date of last issue: 12.03.2021 Date of first issue: 25.10.2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dimethylacetamide (DMAc)
Product code : 51093-00, P5109301, E5109301

Manufacturer or supplier's details

Company : China Amines Co., Ltd
Address : UNIT 1021, BEVERLEY COMMERCIAL CENTRE, 87-105 CHATHAM ROAD SOUTH, TSIM SHA TSUI, KOWLOON HONG KONG
Telephone : +86 18938922889
Emergency telephone : +86 18938922889

Recommended use of the chemical and restrictions on use


Recommended use : Solvent
Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4
Acute toxicity (Inhalation) : Category 4
Acute toxicity (Dermal) : Category 4
Serious eye damage/eye irritation : Category 2A
Reproductive toxicity : Category 1B

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H227 Combustible liquid.
H312 + H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.

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Precautionary Statements

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
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 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 Store in a well-ventilated place.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Pure substance

Components

Chemical name	CAS-No.	Concentration (% w/w)
N,N-dimethylacetamide	127-19-5	>= 60 -<= 100

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Eastman is committed to the safety, health and environment of our employees, our customers, and the communities we operate within. As part of this commitment, Eastman's Safety Data Sheets (SDS) are prepared in accordance with all applicable national and local regulations. The compositions of our documents reflect these requirements which include, but are not limited to, requirements under the Globally Harmonized System of Classification and Labeling (GHS). These compositions commonly involve the use of ranges versus specific analytical values. If you require a composition that is more specific, please refer to the Certificate of Analysis, sales specification, or contact your Customer Service Representative.

SECTION 4. FIRST AID MEASURES

- | | | |
|---|---|--|
| General advice | : | Show this safety data sheet to the doctor in attendance.
Call a physician immediately. |
| If inhaled | : | Move to fresh air.
If breathing is irregular or stopped, administer artificial respiration. |
| In case of skin contact | : | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Wash contaminated clothing before re-use. |
| In case of eye contact | : | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If easy to do, remove contact lens, if worn. |
| If swallowed | : | Do not induce vomiting without medical advice.
Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : | Harmful in contact with skin or if inhaled.
Causes serious eye irritation.
May damage the unborn child. |
| Notes to physician | : | Treat symptomatically. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|---------------------------------------|---|--|
| Suitable extinguishing media | : | Carbon dioxide (CO2)
Dry chemical
Alcohol-resistant foam |
| Unsuitable extinguishing media | : | Water spray jet |
| Specific hazards during fire fighting | : | Thermal decomposition can lead to release of irritating gases and vapours. |
| Hazardous combustion products | : | Nitrogen oxides (NOx)
Carbon monoxide |
| Specific extinguishing methods | : | Use water spray to cool unopened containers. |

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Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment. Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up : Eliminate all ignition sources if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep product and empty container away from heat and sources of ignition.

Advice on safe handling : Do not swallow. Do not get on skin or clothing. Do not breathe vapors or spray mist. Use only with adequate ventilation. Wash thoroughly after handling.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
N,N-dimethylacetamide	127-19-5	TWA	10 ppm 36 mg/m ³	AU OEL
Further information: Skin absorption				
		TWA	10 ppm	ACGIH

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne

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levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Organic vapor Type

Hand protection

Remarks : Rubber gloves Neoprene gloves The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Eye protection : Safety glasses with side-shields
Face-shield

Skin and body protection : Complete suit protecting against chemicals

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colourless

Odor : ammoniacal

Odor Threshold : not determined

pH : 4 - 7
Concentration: 200 g/l

Melting point/freezing point : -20 °C

Boiling point/boiling range : 166 °C

Flash point : 66 °C
Method: closed cup

Evaporation rate : not determined

Self-ignition : 345 °C

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Upper explosion limit / Upper flammability limit	:	11.5 %(V)
Lower explosion limit / Lower flammability limit	:	1.5 %(V)
Vapor pressure	:	2 hPa (21.7 °C)
Relative vapor density	:	3.02 (Air = 1.0)
Relative density	:	No data available
Density	:	0.94 g/cm ³ (20 °C)
Solubility(ies)		
Water solubility	:	> 1,000 g/l completely soluble (20 °C)
Partition coefficient: n-octanol/water	:	log Pow: -0.77 (25 °C)
Autoignition temperature	:	345 °C
Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	0.92 mPa.s (25 °C)
Viscosity, kinematic	:	not determined
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	Heat, flames and sparks. Take precautionary measures against static discharges. Exposure to moisture
Incompatible materials	:	Strong acids and oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO ₂) Carbon monoxide Nitrogen oxides (NO _x)

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful in contact with skin or if inhaled.

Components:

N,N-dimethylacetamide:

Acute oral toxicity : LD50 Oral (Rat, female): 4,800 mg/kg
LD50 Oral (Mouse, male and female): 4,610 mg/kg
LD50 Oral (Rabbit, male and female): 2,820 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): > 8.8 mg/l
Exposure time: 1 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 Dermal (Rabbit, male): 2,100 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

N,N-dimethylacetamide:

Species : Rabbit
Exposure time : 24 h
Result : Non-irritating to the skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

N,N-dimethylacetamide:

Species : Rabbit
Result : irritating
Assessment : Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

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Components:

N,N-dimethylacetamide:

Species : Guinea pig
Remarks : Did not cause sensitization on laboratory animals.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Components:

N,N-dimethylacetamide:

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)
Method: Bacterial Reverse Mutation Assay
Result: negative

Test Type: Mutagenicity - Mammalian
Method: Genetic Toxicology: DNA Damage and Repair, Un-scheduled DNA Synthesis in Mammalian Cells In Vitro
Result: negative

Genotoxicity in vivo : Species: Rat
Method: Mammalian Bone Marrow Chromosome Aberration Test
Result: negative

Species: Rat
Method: Genetic Toxicology: Rodent Dominant Lethal Test
Result: negative

Species: Mouse
Method: Genetic Toxicology: Rodent Dominant Lethal Test
Result: negative

Germ cell mutagenicity - Assessment : Did not show mutagenic effects in animal experiments.

Carcinogenicity

Not classified based on available information.

Components:

N,N-dimethylacetamide:

Application Route : Inhalation
Remarks : May cause cancer.

Species : Rat, male and female
Application Route : Inhalation
Method : OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies
Remarks : Not classified

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Species : Mouse, male and female
Application Route : Inhalation
Method : OECD Test No. 451: Carcinogenicity Studies
Remarks : Not classified

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

May damage the unborn child.

Components:

N,N-dimethylacetamide:

Reproductive toxicity - Assessment : May damage the unborn child.

STOT - single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

N,N-dimethylacetamide:

Species : Rat, male and female
NOAEL : 100 mg/kg bw/day
Application Route : Oral
Exposure time : 2 year
Method : OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies
Target Organs : Liver

Species : Rat, male and female
NOAEL : 94 mg/kg bw/day
Application Route : Dermal Study
Exposure time : 2 year
Method : OECD Test No. 452: Chronic Toxicity Studies
Target Organs : Liver

Species : Rat, male and female
NOAEL : 90 mg/m³
Application Route : Inhalation
Exposure time : 2 year
Method : OECD Test No. 453: Combined Chronic Toxicity/Carcinogenicity Studies
Target Organs : Liver

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Aspiration toxicity

Not classified based on available information.

Product:

Not classified

Components:

N,N-dimethylacetamide:

Not classified

Experience with human exposure

Product:

Inhalation : Remarks: Harmful if inhaled.
Skin contact : Remarks: Harmful in contact with skin.
Eye contact : Remarks: Causes serious eye irritation.
Ingestion : Remarks: Harmful if swallowed.

Further information

Product:

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

N,N-dimethylacetamide:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 500 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Toxicity to algae/aquatic plants : EC50 (Scenedesmus subspicatus): > 500 mg/l
Exposure time: 72 h
Toxicity to microorganisms : (Bacteria): > 2,000 mg/l
Exposure time: 30 min

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Persistence and degradability

Components:

N,N-dimethylacetamide:

Biodegradability : Biodegradation: 70 %
Exposure time: 28 d
Method: Ready Biodegradability: Modified MITI Test (I)

Result: Readily biodegradable
Biodegradation: 97 %
Exposure time: 5 d
Method: Inherent biodegradability: Zahn-Wellens/EMPA Test

Biodegradation: 77 - 83 %
Exposure time: 14 d
Method: Inherent Biodegradability: Modified MITI Test (II)

Bioaccumulative potential

Components:

N,N-dimethylacetamide:

Bioaccumulation : Remarks: Does not bioaccumulate.

Mobility in soil

Components:

N,N-dimethylacetamide:

Distribution among environmental compartments : Koc: 9.31, log Koc: 0.969

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.
Waste must be classified and labelled prior to recycling or disposal.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

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UN/ID No. : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
Packing instruction (cargo aircraft) : Not applicable
Packing instruction (passenger aircraft) : Not applicable

IMDG-Code

UN number : Not applicable
Proper shipping name : Not applicable
Class : Not applicable
Subsidiary risk : Not applicable
Packing group : Not applicable
Labels : Not applicable
EmS Code : Not applicable
Marine pollutant : Not applicable

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

Not applicable for product as supplied.

Domestic regulation

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

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

Standard for the Uniform Scheduling of Medicines and Poisons : Schedule 6

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The ingredients of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory
TSCA : All substances listed as active on the TSCA inventory
AIC : On the inventory, or in compliance with the inventory
DSL : All components of this product are on the Canadian DSL

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ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZloC	:	On the inventory, or in compliance with the inventory
TECI	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Revision Date	:	22.02.2022
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	:	8-hour, time-weighted average
AU OEL / TWA	:	Exposure standard - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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 Equipment 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZloC - 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

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es; (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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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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