

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

#### 1.1. Product identifier

Product form : Substance  
 Substance name : DMAC (Dimethylacetamide)  
 Product code : 311-200420-1  
 Formula : C<sub>4</sub>H<sub>9</sub>NO

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Paint dissolving effect  
 Solvent for organic reactions  
 Plastic, synthetic fiber and electrolyte production applications  
 Resin production

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

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 Merkez Mahallesi, Ak-Kim Sokak 7  
 77600  
 T +90 226 815 33 00 - F +90 226 353 25 39  
[www.akkim.com.tr](http://www.akkim.com.tr)

#### 1.4. Emergency telephone number

Emergency number : +90 226 815 33 00/33112

Country	Organisation/Company	Address	Emergency number	Comment
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzısıhha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (dermal), Category 4 H312  
 Acute toxicity (inhalation:dust,mist) Category 4 H332  
 Serious eye damage/eye irritation, Category 2 H319  
 Reproductive toxicity, Category 1B H360  
 Full text of H statements : see section 16

##### Adverse physicochemical, human health and environmental effects

May damage fertility or the unborn child. Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) :

Danger

Hazard statements (CLP) :

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 (CLP) : P201 - Obtain special instructions before use.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 - IF ON SKIN: Wash with plenty of water.  
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.  
P308+P313 - IF exposed or concerned: Get <select medical advice or attention as appropriate>.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : DMAC (Dimethylacetamide)

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N,N-dimethylacetamide	(CAS-No.) 127-19-5 (EC-No.) 204-826-4	> 99.9	Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 Repr. 1B, H360D

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person. People with over sensibility problems are not allowed to work or be exposed to the product. In all cases of doubt, or when symptoms persist, seek medical attention. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after eye contact : Eye irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Strong water jet.

### 5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire : At high temperature may liberate dangerous gases.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Precautionary measures fire : Approach from upwind. Use water spray or fog for cooling exposed containers. Keep away from combustible materials.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Cool adjacent tanks / containers / drums with water jet. Do not allow water to enter the vessels, a violent reaction may occur. Do not enter fire area without proper protective equipment, including respiratory protection. Exercise caution when fighting any chemical fire. Keep upwind. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : High temperature decomposition products are harmful by inhalation. Inhalation of vapour can cause breathing difficulties.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Access forbidden to unauthorised personnel. Use protective clothing. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Notify authorities if product enters sewers or public waters. Use care in walking on spilled material. Do not inhale vapour.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. Dust formation: dust mask. Wear suitable protective clothing, gloves and eye or face protection.

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not touch or walk on the spilled product. Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent access to unauthorized personnel.

Measures in case of dust release : In case of dust production: protective goggles. Dust mask. In case of vapour formation use adequate respirator.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Only qualified personnel equipped with suitable protective equipment may intervene. Wear suitable protective clothing, gloves and eye/face protection.

Emergency procedures : Avoid contact with skin and eyes. Do not touch spilled material. Evacuate unnecessary personnel. Keep away from combustible material. Keep public away from danger area. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Ventilate area. Stop leak if safe to do so.

#### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters. Do not allow to enter drains or water courses. Do not discharge into drains or waterways without neutralizing.

#### 6.3. Methods and material for containment and cleaning up

For containment : Comply with the safety instructions. Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. Clean up any spills as soon as possible, using an absorbent material to collect it. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Sweep or shovel spills into appropriate container for disposal. Minimise generation of dust.

Other information : Dispose of materials or solid residues at an authorized site. Dispose of contaminated materials in accordance with current regulations.

#### 6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13. For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Use adequate ventilation to keep vapour concentrations below applicable standard. Take all necessary technical measures to avoid or minimize the release of the product on the workplace.

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid dust formation. Avoid prolonged and repeated contact with skin. Contaminated work clothing should not be allowed out of the workplace. Do not spray on an open flame or other ignition source. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Keep valves and fittings free from oil and grease. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Take precautionary measures against static discharge.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Containers which are opened should be properly resealed and kept upright to prevent leakage. Ensure adequate ventilation, especially in confined areas.

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible products : Strong acids. Strong bases. Strong oxidizing agents. Peroxides. Explosives.

Incompatible materials : Extremely high or low temperatures.

Heat and ignition sources : Do not smoke. KEEP SUBSTANCE AWAY FROM: ignition sources. heat sources.

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Information on mixed storage : Keep away from food, drink and animal feeding stuffs.  
Storage area : Avoid: Extremely high or low temperatures. Heat and ignition sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### DMAC (Dimethylacetamide)

#### Turkey - Occupational Exposure Limits

OEL TWA (mg/m <sup>3</sup> )	36 mg/m <sup>3</sup>
OEL TWA (ppm)	10 ppm
OEL STEL (mg/m <sup>3</sup> )	72 mg/m <sup>3</sup>
OEL STEL (ppm)	20 ppm

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Consider work permit system e.g. for maintenance activities. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. In the event that dust and/or fine particles are generated with this product, it is prudent to minimize prolonged inhalation exposure to these forms not to exceed the occupational exposure limit. Measure concentrations regularly, and at the time of any change occurring in conditions likely to have consequences on workers exposure.

#### Personal protective equipment:

Corrosionproof clothing. Gloves. Safety glasses. Gas mask.

#### Hand protection:

Protective gloves. EN 374

#### Eye protection:

Safety glasses. EN 166. Where excessive dust may result, wear goggles. Safety glasses

#### Skin and body protection:

Wear suitable protective clothing. In case of dust production: dustproof clothing. In case of dust production: head/neck protection. Where contact with eyes or skin is likely, wear suitable protection

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Dust production: dust mask with filter type P1. Where excessive vapour may result, wear approved mask

#### Personal protective equipment symbol(s):



#### Environmental exposure controls:

Avoid release to the environment.

#### Consumer exposure controls:

Do not eat, drink or smoke during use. Always wash hands after handling the product. Avoid contact with skin and eyes. Avoid contact during pregnancy/while nursing.

#### Other information:

Always wash hands after handling the product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Molecular mass	: 87.12 g/mol
Colour	: Colorless
Odour	: Ammonia-like
Odour threshold	: No data available
pH	: 4 (200g/l) @ 20°C

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Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: -20 °C @ 101.325 kPa
Boiling point	: 166 °C @ 101.325 kPa
Flash point	: 64 °C @ 101.325 kPa
Auto-ignition temperature	: 490 °C @ 101.325 kPa
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 0.2 kPa @ 21.7°C
Relative vapour density at 20 °C	: 3 (Air:1)
Relative density	: No data available
Density	: 0.937 g/cm <sup>3</sup> (@ 20°C)
Solubility	: Water: 1000 g/l @ 20°C
Log Pow	: -0.77 n-oktanol/water (@ 25°C)
Viscosity, kinematic	: 0.982 mm <sup>2</sup> /s
Viscosity, dynamic	: 0.92 mPa·s
Explosive properties	: No data available
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 1.8 vol %
Upper explosive limit (UEL)	: 11.5 vol %

### 9.2. Other information

Surface tension mN/m @ 20°C	: 33,8
Volatile component	: 100 vol.%

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Peroxides. Explosives.

### 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 (oral)	: Not classified
Acute toxicity (dermal)	: Harmful in contact with skin.
Acute toxicity (inhalation)	: Harmful if inhaled.

### DMAC (Dimethylacetamide)

LD50 oral rat	4800 - 5830 mg/kg
LD50 oral rabbit	2820 mg/kg
LD50 dermal rabbit	2100 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	2.2 mg/l/4h

Skin corrosion/irritation	: Not classified pH: 4 (200g/l) @ 20°C
Serious eye damage/irritation	: Causes serious eye irritation. pH: 4 (200g/l) @ 20°C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child.

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STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### DMAC (Dimethylacetamide)

Log Pow	-0.77 n-oktanol/water (@ 25°C)
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

##### Component

N,N-dimethylacetamide (127-19-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations. Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015. Regulation on Incineration of Waste Materials published in the Official Journal numbered 27721 on October 6, 2010.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions. Do not remove as household garbage.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

#### 14.6. Special precautions for user

##### Overland transport

Not applicable

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### Transport by sea

Not applicable

### Air transport

Not applicable

### Inland waterway transport

Not applicable

### Rail transport

Not applicable

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

DMAC (Dimethylacetamide) is not on the REACH Candidate List

Contains a substance on the REACH candidate list in concentration  $\geq 0.1\%$  or with a lower specific limit: N,N-dimethylacetamide (EC 204-826-4, CAS 127-19-5)

DMAC (Dimethylacetamide) is not on the REACH Annex XIV List

DMAC (Dimethylacetamide) is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

DMAC (Dimethylacetamide) is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

#### 15.1.2. National regulations

##### Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV

: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration

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RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Data sources : Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013. ECHA (European Chemicals Agency). Supplier's safety documents.

Other information : The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 1B	Reproductive toxicity, Category 1B
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360	May damage fertility or the unborn child.
H360D	May damage the unborn child.

### SDS EU (REACH Annex II)

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