

# Safety Data Sheet

According To Regulation (EC) No 1907/2006 (REACH)

## DIMETHYLFORMAMIDE

 Version: 1.0  
 Form No: 193245

 Preparation Date : 10/11/2013  
 Revision Date: 10/11/2013

### 1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier

<b>Product Name</b>	<b>DIMETHYLFORMAMIDE</b>
<b>SDS<sup>1</sup> No</b>	193245
<b>CAS<sup>2</sup> No</b>	68-12-2
<b>EINECS<sup>3</sup> No</b>	200-679-5
<b>Chemical Name</b>	N,N-Dimethyl-formamide
<b>Chemical Formula</b>	C <sub>3</sub> H <sub>7</sub> NO
<b>Structural Formula</b>	

#### 1.2 Relevant Identified Uses Of The Product And Uses Advised Against

<b>Relevant Identified Uses</b>	Solvent for liquid and gases. Used as strengthening and component materials in coating industry. Used as adhesive in film and printing inks applications. It is in lots of paint solvent substance component. Polyacrylic fiber solvent.
<b>Uses Advised Against</b>	See chapter 16 for a general overview

#### 1.3 Details Of The Supplier Of The Safety Data Sheet

<b>Supplier (Manufacturer)</b>	<b>AK-KİM KİMYA SAN. VE TİC. A.Ş.</b> <a href="http://www.akkim.com.tr">www.akkim.com.tr</a>
<b>Address – Factory</b>	Denizçalı Köyü, Taşköprü Mevkii, P.K. 39 77600 Yalova / TÜRKİYE
<b>Telephone</b>	0 226 815 33 00
<b>Fax</b>	0 226 353 25 39

#### 1.4 Information Providing Authority About Safety Data Sheet

	Ali Haydar KETİR – Environmental Engineer
<b>Telephone</b>	+90 (226) 815 33 00 / 33304
<b>Fax</b>	<a href="mailto:ali.ketir@akkim.com.tr">ali.ketir@akkim.com.tr</a>

#### 1.5 Emergency Telephone Number

<b>Company Emergency</b>	0 226 815 33 00
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### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification Of The Product

##### 2.1.1 Classification According to Regulation (EC) No 1272/2008

- Reproductive toxicity, Category 1B; H360D
- Flammable liquids, Category 3; H226
- Acute toxicity, Category 4, inhalation; H332
- Acute toxicity, Category 4, dermal; H312

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- Eye irritation, Category 2; H319

### 2.2 Label elements

#### 2.2.1. Labeling According to Regulation (EC) No 1272/2008 [CLP<sup>4</sup>/GHS<sup>5</sup>]

##### Product Identifier

Hazard Component for Labeling

· DIMETHYLFORMAMIDE

##### Hazard Pictograms



##### Signal Word

- Danger

##### Hazard Statements

**H226** Flammable liquid and vapour.

**H312** Harmful in contact with skin.

**H319** Causes serious eye irritation.

**H332** Harmful if inhaled.

**H360D** May damage the unborn child.

##### Precautionary Statements

###### General

- None

###### Prevention

**P201** Obtain special instructions before use.

###### Response

**P302+P352** IF ON SKIN: Wash with plenty of soap and water.

**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.

###### Storage

- None

###### Disposal

- None

##### Supplemental Hazard Information (EU) Statements

- None

#### 2.2.2. Special Rules For Supplemental Label Elements For Certain Mixtures

- None.

#### 2.2.3. Additional Labeling

- Not Applicable

### 2.3 Hazard Identification

#### 2.3.1. Skin Contact

Harmful if absorbed through skin. May cause skin irritation.

#### 2.3.2. Eye Contact

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<i>Causes serious eye irritation.</i>	
<b>2.3.3. Ingestion</b>	<i>May be harmful if swallowed.</i>
<b>2.3.4. Inhalation</b>	<i>Toxic if inhaled. May cause respiratory tract irritation.</i>
<b>2.3.5. Long term effects</b>	<i>Inhalation of DMF for a long time or its accumulation in the body by several absorptions through the skin may lead to important diseases. These diseases appear as nausea, gastro-intestinal cramps and irritation of esophagus.</i>
<b>2.3.6. Adverse Environmental Effects</b>	<i>No data available</i>
<b>2.4. Additional Information</b>	<i>· None</i>

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Description Of The Substance: N,N-dimethylacetamide (> 98%)

NAME	EINECS NO	CAS NO.	CONTENT (%)	CLASSIFICATION
				CLP
N,N-Dimethyl-formamide	200-679-5	68-12-2	> 98	   <b>DANGER</b> Reproductive toxicity, Category 1B; H360D Flammable liquids, Category 3; H226 Acute toxicity, Category 4, inhalation; H332 Acute toxicity, Category 4, dermal; H312 Eye irritation, Category 2; H319

#### 3.2 Additional information

· None

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

##### 4.1.1 General information

- Remove contaminated clothing.
- In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

##### 4.1.2 Following inhalation

- Whilst protecting yourself remove the casualty from the hazardous area and take him to the fresh air.
- In the case of breathing difficulties have the casualty inhale oxygen.
- Arrange medical treatment.
- After inhalation of products of combustion:  
As soon as possible repeatedly have the casualty deeply breath a glucocorticoid inhalation spray in.

##### 4.1.3 Following skin contact

- Remove contaminated clothing while protecting yourself.
- Rinse the affected skin areas for 10 minutes under running water.

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- Under no circumstances use alcohol, gasoline or other solvents.
- In cases of extensive contact after rapid cleansing (1 - 2 min) immediately: Whilst protecting yourself, relocate the casualty away from the source of danger.
- In the safe place immediately cleanse further, then:  
Lay the casualty down in a quiet place and protect him against hypothermia.
- In the meantime call a doctor on emergency service to the scene of the accident.
- Under no circumstances leave contaminated clothing on the accident victim.

### 4.1.4 Following eye contact

- Rinse the affected eye with widely spread lids for 10 minutes under running water whilst protecting the unimpaired eye.
- Following the rinsing immediate transport to an eye doctor or into an hospital is necessary.

### 4.1.5 Following ingestion

- Rinse the mouth and spit the fluids out.
- Let the casualty drink 1 - 2 glass of water.
- Under no circumstances give alcoholic beverages!
- Apply charcoal (3 tablespoons as a suspension in a glass of water).
- Arrange medical treatment.
- Should vomiting occur, hold the head of the casualty in a low-lying position (danger of aspiration).

### 4.1.6 Self-protection of the first aider

- Pay attention to self-protection

### 4.1.7 Notes for the doctor

- So far oral intoxications with N,N-dimethylformamide have not been reported.
- When accidents occurred there usually was a combined dermal-inhalative exposure.
  - Symptoms of acute poisoning:
- eyes: slight to moderate irritation with subsequent conjunctivitis, damages of the cornea not to be excluded; favorable prognosis but delayed healing possible, dependent on concentration and duration of action.
- skin: minor or lacking irritation; absorptive effects (increased by mostly simultaneous inhalation); dermatitis/eczema as a consequence of defatting/dehydration/inflammation mostly after repeated, intensive contact; sensitization rather unlikely
- inhalation: irritation of the mucous membranes of the (upper) respiratory tract probably only through high aerosol/vapor concentrations, in the extreme case lung damage (haemorrhage) possible; absorptive effects could set in dependent on intensity and duration of exposure and possibly skin contact.
- ingestion: probably only slight irritation of contacted mucous membranes, rapid entrance of absorptive effects.
- absorption: gastrointestinal pain or cramps, nausea, emesis, cephalgia, vertigo, disturbance of liver functions up to liver damage, cardiovascular disturbances; affections of kidneys less likely but not to be excluded.
- The absorptive effects can be greatly increased due to preceding or subsequent intake of alcohol.
- Possible delayed impact: chronical gastritis, duodenal ulcera, neurasthenia, asthenic-vegetative syndrome.

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*- Medical advice:*

- *Following eye contact following first aid treatment as needed consult an ophthalmologist.*
- *In case of skin contact, after careful decontamination probably no further topical treatment-measures are necessary. However, in case of extensive or long lasting contact (contaminated working clothes!) a postobservation in hospital is absolutely recommended because of absorptive effects which can possibly appear later on.*
- *The same applies following massive inhalative intake of aerosols.*
- *A generous making of indication for prophylaxis of a pulmonary oedema is recommended especially after inhalation of gases from the overheated or burning substance.*
- *After ingestion only the application of charcoal and laxatives (sodium sulfate) were recommended.*
- *Because of the proven considerable hepatotoxicity of high doses a gastrolavage can also be indicated in the initial stage (relatively rapid absorption!).*
- *Because of possibly anaesthetizing action (lack of defence reflexes) an endotracheal intubation should precede. After repeated lavage with 300 ml of lukewarm water each time final application of 50 g charcoal suspended in a little water and of 100 ml 20 % mannitol solution over the stomach tube.*
- *The cardiovascular-, liver-, and kidney functions should frequently be observed.*

**Recommendations:**

- *Provide the physician information about the substance/product and treatment already administered.*
- *With regard to an ingestion there is conflicting information in the literature on the indication of a provoked emesis.*
- *Whereas the emesis seems to be unnecessary after ingestion of small amounts, the danger of aspiration increases for higher, dangerous doses.*
- *An antidote against the effects after absorption have not been described in the literature.*
- *Since the hepatotoxic action is probably ascribable on an electrophilic metabolic intermediate product which evidently reacts with glutathione, a liver protective therapy with N-acetylcysteine (Fluimucil-infusion) could be considered in cases of serious poisoning.*

## 5. FIRE-FIGHTING MEASURES

### 5.1 General Information and Flammable Properties

- *The substance/product is combustible*

### 5.2 Extinguishing media:

- *Water (spray - not splash)*
- *Dry extinguishing powder*
- *Carbon dioxide*
- *Fight large fire with alcohol resistant foam or water spray.*
- *Cool all affected containers with flooding quantities of water.*

### 5.3 Unsuitable extinguishing media

- *None known.*

### 5.4 Special hazards arising from the product

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- Nitrogen oxides; carbon monoxide; carbon dioxide.

### 5.5 Advice for fire-fighters

- Wear NIOSH<sup>6</sup> approved breathing apparatus, eye and face protector and chemical resistant clothes.
- Cool surrounding containers with water spray.
- If possible, take container out of dangerous zone.
- Heating causes a rise in pressure, risk of bursting and explosion.
- Shut off sources of ignition.
- Beware of backfire.
- Do not allow runoff to get into the sewage system.

### 5.6 Additional information

- Use water spray to cool unopened containers.
- Contaminated extinguishing water must be disposed of in accordance with official regulations
- Do not allow the quenching water into sewage systems

## 6. ACCIDENTAL RELEASE MEASURES

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

- Avoid inhalation of vapors, mist or gas.
- Ensure adequate ventilation.
- Shut off all sources of ignition.
- Evacuate personnel to safe areas
- Beware of vapours accumulating to form explosive concentrations.
- Vapours can accumulate in low areas.
- Refer to protective measures listed in section 7 and 8.
- Put on protective equipment before entering danger area.

### 6.2 Environmental precautions

- Cover drains.
- Do not allow to enter into soil/subsoil.
- Do not empty into drains or the aquatic environment.

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

#### 6.3.1 For containment

- Control personal contact by using protective equipment as required
- Take up contaminated material and pass on for further processing.
- Contain for disposal according to local / national regulations.

#### 6.3.2 For cleaning up

- Use protective equipment while cleaning if necessary.
- Use electrically protected vacuum cleaner or by wet-brushing.
- Only conduct maintenance and other work on or in the vessel or closed spaces after obtaining written permission.
- Only work with vessels and lines after they have been thoroughly rinsed.

#### 6.3.3 Other information

- Dispose of waste material according to local, state and federal regulations.

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### 6.4 Reference to other sections

- Dispose of contaminated material as waste in accordance with section 13.
- See Section 13.

## 7. HANDLING AND STORAGE

### 7.1.1 Precautions for safe handling

### 7.1.2 Protective measures

#### Personal preventions

- Depending on the risk, wear a tight, long apron and boots or suitable chemical protection clothing.
- Wear flameproof protective clothing.
- The protection clothing should be solvent resistant. Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

#### Fire preventions

- The substance/product is combustible
- See section 5.

#### Environmental precautions:

- Dispose of waste material according to local, state and federal regulations.

### 7.1.3 Advice on general occupational hygiene

- Use good occupational work practice.
- Comply with the health and safety at work laws.
- Remove contaminated clothing and protective equipment before entering eating areas.

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

- Keep in a cool place. Keep container dry.
- Keep container in a well-ventilated place
- Store in original containers.
- Store under inert gas.
- Hygroscopic
- Check all containers are clearly labelled and free from leaks.
- Keep containers securely sealed when not in use
- Avoid contact with incompatible materials

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- Avoid physical damage to containers.

### STORAGE INCOMPATIBILITY

- Segregate from oxidants

#### 7.1 Advice on common storage

- Do not use any food containers - risk of mistake.
- Containers have to be labelled clearly and permanently.
- Store in the original container as much as possible.
- Keep container tightly closed.
- Store in a cool place.
- Store in a dry place.
- Keep container in a well-ventilated place.

#### 7.2 Specific precautions on storage

- Storage class 6.1 C (Combustible, acutely toxic Cat. 3 or chronic effecting substances)
- Only substances of the same storage class should be stored together.
- Collocated storage with the following substances is prohibited:
  - Pharmaceuticals, foods, and animal feeds including additives.
  - Infectious, radioactive und explosive substances.
  - Gases.
  - Other explosive substances of storage class 4.1A.
  - Strongly oxidizing substances of storage class 5.1A.
  - Ammonium nitrate and preparations containing ammonium nitrate.
  - Organic peroxides and self reactive substances.
- Under certain conditions the collocated storage with the following sub-stances is permitted (For more details see TRGS 510):
  - Spontaneously flammable substances.
  - Substances liberating flammable gases in contact with water.
  - Oxidizing substances of storage class 5.1B.
- The substance should not be stored with substances with which hazardous chemical reactions are possible.
- The substance should not be stored with substances with which hazardous chemical reactions are possible.
- Observe the national and local regulations concerning handling and storage.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Preventive industrial and medical examinations must be carried out according to the application area.

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

#### 8.1.1 Occupational exposure limits

- TLV : 36 mg/m<sup>3</sup> (US)
- MAK : 10 mg/m<sup>3</sup> (DE)

### 8.2 Exposure controls



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- Adequate ventilation should be used during processing

### 8.2.1 Appropriate engineering controls:

- Provide local exhaust ventilation.
- In the immediate working surroundings there must be: Emergency shower installed.
- Make available sufficient washing facilities.
- Provide eye shower and label its location conspicuously.
- See Section 7

### 8.2.2 Personal protection equipment

#### 8.2.2.1 Eye / Face protection:

- Safety glasses with side shields.
- Chemical goggles approved under government standards such as NIOSH (US) or EN 166(EU)
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation
- Lens should be removed in a clean environment only after workers have washed hands thoroughly.



#### 8.2.2.2 Skin protection

##### Hand protection

- The use of resistant protective gloves is recommended.
- Skin protection cremes do not protect as effectively against the substance as protective gloves. Therefore suitable protective gloves should be preferred as far as possible.
- The following information is valid for aqueous, saturated solutions of the salt.
- The following materials are suitable for protective gloves (Permeation time  $\geq$  8 hours):
  - Material: butyl-rubber
  - Minimum layer thickness: 0,5 mm
  - Break through time: > 480 min
  - Material tested: Butoject® (Aldrich Z677647, Size M)
- Following materials are unsuitable for protective gloves because of degradation, severe swelling or low permeation time:
  - Natural rubber/Natural latex - NR
  - Polychloroprene - CR
  - Nitrile rubber/Nitrile latex - NBR
  - Fluoro carbon rubber - FKM
  - Polyvinyl chloride - PVC
- If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an



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approval for any specific use scenario.

### Body protection

- Depending on the risk, wear a tight, long apron and boots or suitable chemical protection clothing.
- Wear flameproof protective clothing.
- The protection clothing should be solvent resistant.

### Other protection

- Handle in accordance with good industrial hygiene and safety practice.

### 8.2.2.3 Respiratory protection

- Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- In an emergency (e.g.: unintentional release of the substance, exceeding the occupational exposure limit value) respiratory protection must be worn. Consider the maximum period for wear.



Respiratory protection: Gas filter A, Colour code brown.

Do not use small filters (filter class 1).

Use insulating device for concentrations above the usage limits for filter devices, for oxygen concentrations below 17% volume, or in circumstances which are unclear.

### 8.2.3 Environmental exposure controls

- Legislation for the protection of the environment must be met in full.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Appearance

Form/Physical state	Liquid, clear
Color	Colourless
Odor	Amin like
	Value
pH ( 200 g/l) @ (20°C)	6,7
Melting/Freezing point/range (°C)	-61
Boiling point/range (°C)1,013 hPa	153
Flash Point (°C)closed cup	58
Auto Ignition temperature (°C)	445
Viscosity cSt @ 40 °C	0,802
Relative Density g/cm <sup>3</sup> @25 °C	0,948
Vapour Density (Air=1)	2,52
Upper explosion limit % (V)	15,2
Lower explosion limit % (V)	2,2
Solubility in water g/l @ 20°C	Completely miscible
Partition coefficient n-Octanol/Water (log Po/w)	-1,01
Vapour Pressure	hPa    °C 3,60    20

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*Note: The above features were determined according to prescribed methods at the Classification, Packaging and Labeling of Hazardous Substances Regulation Section A-3 or a method comparable to the other.*

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

- Chlorinated hydrocarbons can react vehemently when heated, especially in presence of iron traces.

#### 10.2 Chemical stability

- Stable under recommended storage and handling conditions. (See section 7.)

#### 10.3 Possibility of hazardous reactions

- The substance can react dangerously with:
- Oxidizing agents, acids, halogens and halogenated compounds.

#### 10.4 Conditions to avoid:

- Heat, flames and sparks.

#### 10.5 Incompatible materials:

- Oxidizing agents, acids, halogens and halogenated compounds.

#### 10.6 Hazardous decomposition products:

- Nitrogen oxides; carbon monoxide; carbon dioxide.

#### 10.7 Hazardous polymerization:

- None.

### 11. TOXICOLOGICAL INFORMATION

#### 11.1 General Information

- Routes of exposure:
- - During occupational handling of sodium metabisulfite (S.) exposure is to be expected via the inhalative and dermal intake pathways.

#### 11.2 Acute toxicity

##### Oral:

- Type of value: LD50
- Species: rat
- Value: approx. 2800 mg/kg

##### Dermal:

- Type of value: LD50
- Species: rabbit
- Value: 1500 mg/kg.

##### Inhalation:

- Type of value: LC50
- Species: rat
- Value: 9-15 mg/kg- 4 hour.

#### 11.3 Skin corrosion/irritation and Eye damage/irritation:

##### Skin:

- Mid skin irritation (human)

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- **Eye:**
  - Moderate eye irritation (Rabbit)
- **Sensitization:**
  - Did not cause sensitization on laboratory animals.

### 11.4 CMR effects (Carcinogenicity) :

- This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.
- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (N,N-Dimethylformamide)

### 11.5 CMR effects (Mutagenicity and Toxicity for reproduction) :

- Genotoxicity in vitro - mouse - lymphocyte  
Mutation in mammalian somatic cells

### 11.6 Other Toxicological Effects:

Allergic Effects	May cause allergic reactions depends on sensitization
Effects on Repeated Doses Chronic Exposures	Inhalation of DMF for a long time or its accumulation in the body by several absorptions through the skin may lead to important diseases. These diseases appear as nausea, gastro-intestinal cramps and irritation of esophagus.
Sensitization	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals
Developmental Toxicity (Teratogenicity)	No data available concerning teratogenic effects. The chemical structure does not suggest such an effect.
Fertility	May cause congenital malformation in the fetus. Presumed human reproductive toxicant.

### 11.7 STOT-single/repeated exposures:

STOT-single exposure	No data available
STOT-repeated exposure	No data available

### 11.8 Symptoms related to the physical, chemical and toxicological characteristics:

In case of inhalation	Toxic if inhaled. May cause respiratory tract irritation.
In case of skin contact	Harmful if absorbed through skin. May cause skin irritation.
In case of eye contact	Causes serious eye irritation.
In case of ingestion	May be harmful if swallowed.

### 11.9 Additional Toxicological Information:

- Toxicological classifications are based on available knowledge and information
- EEC classification: Harmful.
- The special effects to health are considered by taking into account the information in section 3.
- RTECS: LQ2100000

## 12. ECOLOGICAL INFORMATION

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### 12.1 Ecotoxicity:

- Acute Fish Toxicity (LC50 96 hour): 10500 mg/l
- Acute Crustaceans Toxicity (LC50 48 hour): 14400 mg/l
- Acute Crustaceans Toxicity (EC50 48 hour): 12800 mg/l
- Acute Daphnia Toxicity (EC50 48 hour): 9600 (Water flea)
- Acute Algae Toxicity (LC50 96 hour): >500 mg/l (green algae)

### 12.2 Photo degradation

Result: 90 % - Readily biodegradable.

### 12.3 Effects on Waste Water Treatment Plants

Not determined.

### 12.4 Mobility

Liquid  
Completely miscible  
Refer to ecotoxicity.

Water threat class No data available

Clean Water Impact No data available

Known or predicted environmental distribution No data available

### 12.5 Results of PBT and vPvB assessment

Biotic	
Ready biodegradability:	No data available
Abiotic:	
Hydrolysis as a function of pH:	No data available
Photolysis:	No data available
Atmospheric oxidation:	No data available

#### · Persistence and degradability:

Decomposition Potential of the products No data available

The half-life of degradation No data available

Potential degradation of product content in the evaluation of wastewater treatment plants No data available

#### · Bioaccumulation Potential :

Biological environment (biota) accumulation potential No data available

Potential - nutrients pass through No data available

Reference Values - Log Kow , Sw and BCF Log Po/w: -0,77

### 12.6 Additional information

See the sections 6, 7, 13, 14 and 15.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Product / Packaging disposal

- This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.
- If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means.

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- Shelf life considerations should also be applied in making decisions of this type.
- Note that properties of a material may change in use, and recycling or reuse may not always be appropriate
- When recycling of the product is not possible, disposal to landfill or incineration in accordance with all applicable government laws and regulations is recommended.
- Disposal according to local authority regulations.
- Contact waste disposal services

### 13.2 Contaminated packaging

- If there is product residue in the emptied container, follow directions for handling on the container's label.
- Contaminated packaging must be emptied of all residues and can be recycled following appropriate cleaning.

### 13.3 Disposal Methods





- This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.
- Offer surplus and non-recyclable solutions to a licensed disposal company.
- Dispose of chemicals waste or in accordance with local regulations.
- Follow all applicable local laws, rules and regulations regarding the proper disposal of this material.
- If this product has been altered or contaminated with other hazardous materials, appropriate waste analysis may be necessary to determine proper method for disposal

### 13.4 European Waste Catalogue

- The final classification has to be done together with the local waste disposal company / authority.

## 14. TRANSPORT INFORMATION

UN 2265, N,N-DIMETHYLFORMAMIDE

	ADR <sup>7</sup> /RID <sup>8</sup>	ADNR9	IMDG <sup>10</sup>	ICAO <sup>11</sup> /IATA <sup>12</sup>
TRANSPORTATION	Road	River	Marine	Airways
PROPER SHIPPING NAME	UN 2265, N,N-DIMETHYLFORMAMIDE			
UN/ID No.	2265	2265	2265	2265
SYMBOL				
CLASS	3	3	3	3
PACKAGING GROUP	III	III	III	III
LABELLING NO	3			
CLASSIFICATION CODE	F1	F1	F1	F1
HAZARD NO (HIN NO)	30			
EmS			F-E;S-D	
MARINE Pollutant			NO	

Road Transport Notes: -

## 15. REGULATORY INFORMATION

# Safety Data Sheet

According To Regulation (EC) No 1907/2006 (REACH)

## DIMETHYLFORMAMIDE

Version: 1.0  
Form No: 193245

Preparation Date : 10/11/2013  
Revision Date: 10/11/2013

### 15.1 Safety, Health And Environmental Regulations / Legislation Specific For The Substance

Substance is found on the following regulatory lists;;

- "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)"

### 15.2 Chemical Safety Assessment

No data available

#### 15.2.1 HAZARD

CLP classification according to Annex VI of CLP (Regulation (EC) No 1272/2008)

- Flammable liquid and vapour.
- Harmful in contact with skin.
- Causes serious eye irritation.
- Harmful if inhaled.
- May damage the unborn child.

#### 15.2.2 RISK

- May cause harm to the unborn child
- Also harmful by inhalation and in contact with skin
- Irritating to eyes

### 15.3 INTERNATIONAL REGULATIONS

- This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006 and ISO 11014:2009. This product is classified according to EU Directive 67/548/EC and GHS/CLP.

## 16. OTHER INFORMATION

### 16.1 Other information

- For additional information regarding **AK-KIM KIMYA SAN. VE TIC. ŞTİ.** products please contact the **AK-KIM KIMYA SAN. VE TIC. A.Ş** Vedat Ateşoğlu - [vatesoglu@akkim.com.tr](mailto:vatesoglu@akkim.com.tr)
- The above information complies with the 199/45/EC and 1907/2006 Directives and their amendments.
- In all cases of potential poisoning supportive therapy is of the utmost importance.

### 16.2 Related Person

- Vedat Ateşoğlu - [vatesoglu@akkim.com.tr](mailto:vatesoglu@akkim.com.tr) Ak-Kim Kimya San. Ve Tic. A.Ş
- Prepared by : Ali Haydar KETİR - Ak-Kim Kimya San. Ve Tic. A.Ş  
[ali.ketir@akkim.com.tr](mailto:ali.ketir@akkim.com.tr)
- **Competent Person Accreditation no : TSE GBF-0855 28.07.2011**

### 16.3 Revision Date, Version and SDS no

- Date : October 11, 2013
- Version : 1.0
- MSDS No : 193245

### 16.4 Reason of re-issue

- Compiling according to Regulation (EC) No 1272/2008

### 16.5 Relevant R-, H- and EUH-phrases (number and full text):

# Safety Data Sheet

According To Regulation (EC) No 1907/2006 (REACH)

## DIMETHYLFORMAMIDE

Version: 1.0  
Form No: 193245

Preparation Date : 10/11/2013  
Revision Date: 10/11/2013

<b>H226</b>	<i>Flammable liquid and vapour.</i>
<b>H312</b>	<i>Harmful in contact with skin.</i>
<b>H319</b>	<i>Causes serious eye irritation.</i>
<b>H332</b>	<i>Harmful if inhaled.</i>
<b>H360D</b>	<i>May damage the unborn child.</i>

### 16.6 Legal disclaimer

- *The purpose of the above information is to describe the products only in terms of health and safety requirements.*
- *The information given should not, therefore, be construed as guaranteeing specific properties or as specification.*
- *Customers should satisfy themselves as to the suitability and completeness of such information for their own particular use.*
- *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 above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.*
- *The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. Due to the many factors outside our control when using this product, we cannot accept liability for any injury, accident, loss or damage caused through its use.*

<sup>1</sup> SDS: Safety Data Sheet

<sup>2</sup> CAS: Chemical Abstract Service

<sup>3</sup> EINECS: European INventory of Existing Commercial

<sup>4</sup> CLP: Classification Labelling and Packaging

<sup>5</sup> GHS: Global Harmonised System

<sup>6</sup> NIOSH: National Institute of Occupational Safety and Health( Ulusal İş Sağlığı ve Güvenliği Enstitüsü)

<sup>7</sup> ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

<sup>8</sup> RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

<sup>9</sup> ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways

<sup>10</sup> IMDG: International Maritime Code for Dangerous Goods

<sup>11</sup> ICAO: International Civil Aviation Organization

<sup>12</sup> IATA: International Air Transport Association