# SAFETY DATA SHEET

According to EC Regulation 1907/2006/EC

**DMAPA (3-Dimethylaminopropylamine)**

**Revision Date** *02-Nov-2011*
**Revision Number** *2*

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

### Product Identifier

| | |
|---|---|
| **Product Name** | DMAPA (3-Dimethylaminopropylamine) |
| **REACH Registration Number** | 01-2119486842-27-0001 |

### Use of the Substance/Mixture

| | |
|---|---|
| **Identified uses** | Chemical intermediate |

### Manufacturer or supplier's details

| | |
|---|---|
| **Company/Undertaking Identification** | Taminco BVBA |
| **Address** | Pantserschipstraat 207<br>9000 GENT<br>BELGIUM |
| **E-mail address** | MSDS_FCH@taminco.com |
| **Telephone** | (+32) 9 254 14 11 |
| **Telefax** | (+32) 9 254 14 10 |

### Emergency Telephone Number

| | |
|---|---|
| **Emergency Telephone Number** | (+32) 9 254 10 36 |

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

C : R34
Xn : R21/22
Xi : R43
R10
S1/2, S26, S36/37/39, S45

**REGULATION (EC) No 1272/2008**

| | |
|---|---|
| **Classification of the substance or mixture** | H226 : Flam. Liq. cat. 3<br>H302 : Acute oral Tox. cat. 4<br>H312 : Acute dermal Tox. cat. 4<br>H314 : Skin Corr. cat. 1B<br>H317 : Skin Sens. cat. 1<br>H318 : Eye damage cat. 1 |

| | |
|---|---|
| **Precautionary Statement - Prevention** | P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking<br>P233 - Keep container tightly closed<br>P240 - Ground/bond container and receiving equipment<br>P241 - Use explosion-proof electrical/ventilating/lighting/equipment<br>P242 - Use only non-sparking tools<br>P243 - Take precautionary measures against static discharge<br>P260 - Do not breathe dust/fume/gas/mist/vapors/spray<br>P264 - Wash face, hands and any exposed skin thoroughly after handling<br>P270 - Do not eat, drink or smoke when using this product<br>P272 - Contaminated work clothing should not be allowed out of the workplace<br>P280 - Wear protective gloves/protective clothing/eye protection/face protection |

| | |
|---|---|
| **Precautionary Statement - Response** | P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower<br>P302 + P352 - IF ON SKIN: Wash with plenty of soap and water<br>P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention<br>P363 - Wash contaminated clothing before reuse<br>P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing<br>P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting<br>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing<br>P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction<br>P310 - Immediately call a POISON CENTER or doctor/physician |

| | |
|---|---|
| **Precautionary Statement - Storage** | P405 - Store locked up |

| | |
|---|---|
| **Precautionary Statement - Disposal** | P501 - Dispose of contents/container to an approved incineration plant |

## Label elements

**Product Name** DMAPA (3-Dimethylaminopropylamine)

**Hazard pictograms**

**Signal Word**
Danger

**Hazard Statements**
H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction

**Precautionary Statements**
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

## Other hazards

**Other hazards which do not result in classification**
None known

**For the full text of the R phrases mentioned in this Section, see Section 16**

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Haz/Non-haz**

| Chemical Name | CAS-No | Weight % | EINECS | Registration number |
|---|---|---|---|---|
| 3-(Dimethylamino)-propylamine | 109-55-7 | > 99 | 203-680-9 | 01-2119486842-27-0001 |

# 4. FIRST AID MEASURES

## FIRST AID MEASURES

**General Advice**
Remove to fresh air immediately. Get medical attention immediately. Show this material safety data sheet to the doctor in attendance. Take off contaminated clothing and shoes immediately. If symptoms persist, call a physician.

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
Remove contact lenses
Obtain medical attention
Continue rinsing eyes during transport to hospital

**Skin Contact**
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes
Consult a physician
Wash contaminated clothing before re-use
Thoroughly clean shoes before reuse

**Inhalation**
Remove from exposure, lie down
If breathing is difficult, give oxygen
If not breathing, give artificial respiration
Symptoms may be delayed
Immediate medical attention is required

**Ingestion**

rinse mouth
Clean mouth with water and afterwards drink plenty of water
Never give anything by mouth to an unconscious person
Do not induce vomiting
If swallowed, seek medical advice immediately and show this container or label

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

- Causes severe caustic burns to skin and eyes
- Corrosive to the eyes and may cause severe damage including blindness
- Harmful if swallowed
- Corrosive
- Lachrymation
- superficial burning sensation
- Exposure may result in reddening, tears and itching of the eyes and soreness in the nose and throat, together with coughing
- Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough
- Shortness of breath
- Suffocation
- Lung edema
- Pneumonia
- Chronic exposure causes drying effect on the skin and eczema

## Indication of immediate medical attention and special treatment needed

- Consult a physician

# 5. FIRE-FIGHTING MEASURES

## Suitable Extinguishing Media

- carbon dioxide ($CO_2$)
- water spray
- dry chemical
- Alcohol-resistant foam

**Extinguishing media which must not be used for safety reasons**

- high volume water jet

## Specific Hazards Arising from the Chemical

**Specific hazards**

- Flammable
- Vapors are heavier than air and may spread along floors
- Vapors may form explosive mixture with air
- Heating or fire can release toxic gas

Nitrogen oxides (NOx)
Carbon monoxide

**Specific methods**

- Cool containers / tanks with water spray
- Keep product and empty container away from heat and sources of ignition
- Do not flush into surface water or sanitary sewer system
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains

## Protective Equipment and Precautions for Firefighters

Wear full protective clothing and self-contained breathing apparatus

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- Avoid contact with skin, eyes and clothing
- Evacuate personnel to safe areas
- Keep people away from and upwind of spill/leak
- Wear self-contained breathing apparatus and protective suit
- Rubber gloves

### Environmental precautions

- Should not be released into the environment
- Remove immediately adhering matter
- Prevent product from entering drains
- Do not flush into surface water or sanitary sewer system

### Methods and materials for containment and cleaning up

- Use explosion-proof equipment
- Wear self-contained breathing apparatus and protective suit
- Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container
- Neutralize with hydrochloric or sulfuric acids

## 7. HANDLING AND STORAGE

### Precautions for safe handling

- Use only in area provided with appropriate exhaust ventilation
- Use spark-proof tools and explosion-proof equipment
- Wear personal protective equipment
- Do not eat, drink or smoke when using this product
- Wash hands after handling
- Remove contaminated clothing and protective equipment before entering eating areas
- Ensure that eyewash stations and safety showers are close to the workstation location
- Avoid breathing vapors or mists

### Conditions for safe storage, including any incompatibilities

- In accordance with local and national regulations
- Keep container tightly closed
- Keep away from open flames, hot surfaces and sources of ignition
- Keep in a dry, cool and well-ventilated place
- Incompatible with strong acids and oxidizing agents

### Specific end uses

See also section 1
Exposure scenario : Annex

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | EU | Japan |
|---|---|---|---|
| 3-(Dimethylamino)-propylamine | Not listed | | |

## Exposure controls

**Engineering Controls**
- Local exhaust

**Personal Protective Equipment**

**Eye/face Protection**
- Tightly fitting safety goggles
- Face-shield
- Respirator with a full face mask

**Skin Protection**
- Wear suitable protective equipment
- Complete suit protecting against chemicals
- Wash hands and face before breaks and immediately after handling the product

**Hand Protection**
- Neoprene gloves
- Solvent-resistant gloves (butyl-rubber)
- The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it
- The suitability for a specific workplace should be discussed with the producers of the protective gloves

**Respiratory Protection**
- In the case of vapor formation use a respirator with filter model A,K
- self-contained breathing apparatus (EN 133)
  (in case of higher concentration)

**Environmental exposure controls**
- Prevent product from entering drains
- Do not contaminate surface water
- Avoid subsoil penetration

# 9. PHYSICAL AND CHEMICAL PROPERTIES

**General Information**

| | |
|---|---|
| **Physical State** | Liquid |
| **Color** | Colorless |
| **Odor** | Amine-like |

**Important Health Safety and Environmental Information**

| | |
|---|---|
| **Boiling Point/Range** | 135.1°C |
| **Flash Point** | 30.5°C closed cup |
| **Viscosity** | 1.6 mPas @ 20°C |
| **Vapor Pressure** | 5.9 hPa @ 20 °C |
| **Vapor Density** | 3.50 (Air =1.0) |
| **Partition coefficient: n-octanol/water** | log Pow : -0.352 @ 25°C |
| **pH** | 12.2 (@100 g/l, 20°C) |
| **Water solubility** | Miscible |
| **Oxidizing Properties** | none |
| **Explosion Limits** | Lower explosion limit 1.3 vol. % |
| **Explosive Properties** | Not explosive |
| **Melting Point/Range** | -70°C |
| **Density** | 0.8133 g/cm3 @ 25 °C |

| | |
|---|---|
| **Flammability** | flammable<br>The substance or mixture is not classified as pyrophoric |
| **Autoignition Temperature** | 215°C |
| **Surface tension** | Not applicable |
| **Dissociation constant** | pKa: 9.33 @ 35°C |

## 10. STABILITY AND REACTIVITY

### Reactivity

### Chemical Stability

- Stable under normal conditions
- Hazardous polymerisation does not occur

### Possibility of hazardous reactions

None under normal processing

### Conditions to Avoid

- Heat, flames and sparks
- Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors)
- Handle under nitrogen, protect from moisture

### Incompatible materials to avoid

- Zinc
- Copper
- Aluminum
- Strong acids and oxidizing agents

### Hazardous Decomposition Products

- Heating or fire can release toxic gas
  - nitrogen oxides (NOx)
  - Carbon monoxide
  - nitrosamine
  - Ammonia

## 11. TOXICOLOGICAL INFORMATION

### Product Information

| | |
|---|---|
| **LD50/oral/rat =** | 410 mg/kg |
| **LD50/dermal/rabbit =** | 2138.7 mg/kg |
| **LC50/inhalation/4h/rat =** | > 4.31 mg/l |
| **Eye irritation** | Corrosive |
| **Skin irritation** | Corrosive |
| **Sensitization** | Causes sensitization on guinea-pigs |
| **Mutagenic Effects** | Did not show mutagenic effects in animal experiments |
| **Reproductive toxicity** | No known effect |
| **Carcinogenic effects** | Not expected |
| **Specific target organ systemic toxicity (repeated exposure)** | No observed adverse effect level : 50 mg/kg/d, after 28 days |

### Human experience

| | |
|---|---|
| **Human experience** | Causes skin and eye burns<br>Causes sensitization<br>Irritating to mucous membranes<br>Respiratory disorders<br>Symptoms may be delayed |

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

| | |
|---|---|
| **Toxicity to fish** | LC50 : 122 mg/l |
| **EC50/48h/daphnia =** | 59.5 mg/l |
| **EC50/72h/algae =** | 53.5 mg/l |
| **Toxicity to bacteria** | Pseudomonas putida EC10 (17 hour) : 69.5 mg/l |

### Mobility

**Koc =**73.36

### Persistence and degradability

According to the results of tests of biodegradability this product is considered as being readily biodegradable

### Bioaccumulative Potential

Not expected

### Results of PBT and vPvB assessment

- This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)
- This substance is not considered to be very persistent nor very bioaccumulating (vPvB)

### Other adverse effects

None known based on information supplied

## 13. DISPOSAL CONSIDERATIONS

### Waste Disposal Method

- Should not be released into the environment
- Dispose of contents/container in accordance with local regulation

### Contaminated Packaging

- Empty containers should be taken to an approved waste handling site for recycling or disposal

## 14. TRANSPORT INFORMATION

**Road transport**

| | |
|---|---|
| **Class** | 8 |
| **Subsidiary Class** | 3 |
| **UN-No** | UN2734 |
| **Packing Group** | II |

## 14. TRANSPORT INFORMATION

**Marine pollutant** no
**Proper Shipping Name** Amines, liquid, corrosive, flammable, n.o.s. (3-Dimethylaminopropylamine)

**Sea transport**

**Class** 8
**Subsidiary Class** 3
**UN-No** UN2734
**Packing Group** II
**Marine pollutant** no
**Proper Shipping Name** Amines, liquid, corrosive, flammable, n.o.s. (3-Dimethylaminopropylamine)

**Air transport**

**Class** 8
**Subsidiary Class** 3
**UN-No** UN2734
**Packing Group** II
**Marine pollutant** no
**Proper Shipping Name** Amines, liquid, corrosive, flammable, n.o.s. (3-Dimethylaminopropylamine)

## 15. REGULATORY INFORMATION

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

**International Inventories**

| Chemical Name | TSCA | EINECS | DSL | ENCS | AICS |
|---|---|---|---|---|---|
| 3-(Dimethylamino)-propylamine | Listed. | 203-680-9 | DSL - Listed | (2)-158 | Listed. |

### Chemical Safety Assessment

- A Chemical Safety Assessment has been carried out for this substance

## 16. OTHER INFORMATION

### This data sheet contains changes from the previous version in section(s)

**Revision Date** 02-Nov-2011

**Reason for revision** Classification and hazard labeling

**Literary Reference** -Taminco Proprietary Studies

### List of relevant R-phrases

- R10 - Flammable
- R21/22 - Harmful in contact with skin and if swallowed
- R34 - Causes burns
- R43 - May cause sensitization by skin contact
- S 1/2 - Keep locked up and out of the reach of children
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

## Training advice

Provide adequate information, instruction and training for operators

## Further information for the material safety data sheet

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text..

**End of Material Safety Data Sheet**