

# **MATERIAL SAFETY DATA SHEET**

# SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

| SUBSTANCE:            | Nitrogen  |
|-----------------------|---|
| FORMULA:              | $N_2$   |
| SYNONYM:              | Dinitrogen  |
| TRADE NAME:           | Nitrogen  |
| CHEMICAL FAMILY:      | Inert gas   |
| COMPANY:              | Megatek Iletisim Sistemleri Ltd.<br>Ethemefendi Cad. 14/1, 34728 Erenkoy / Istanbul /<br>Turkey |
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| <b>CREATION DATE:</b> | 26. December. 2004  |
| <b>REVISION:</b>      | 0   |

#### SECTION 2. COMPOSITION AND INFORMATION ON INGREDIENTS

| <b>COMPONENT:</b>  | Nitrogen      |
|--------------------|---------------|
| CAS NUMBER:        | 7727 - 37 - 9 |
| <b>PERCENTAGE:</b> | 100           |

#### SECTION 3. HAZARDS IDENTIFICATION

**CAUTION:** Nitrogen is a colorless, nontoxic, odorless and nonflammable gas which can cause rapid suffocation when oxygen concentration is reduced below 19.5 %. Self contained breathing apparatus may be required.

#### **EMERGENCY OVERVIEW:**

COLOR:ColorlessODOR:Odorless

PHYSICAL FORM: Gas

#### **HEALTH HAZARDS:**

Nitrogen is nontoxic, may cause suffocation by displacing oxygen. Moderate concentrations may cause serious injury or death.

| EYE CONTACT:               | No adverse effect  |
|----------------------------|--|
| SKIN CONTACT:              | No adverse effect  |
| INHALATION:                | Nausea, vomiting, difficulty breathing, drowsiness, coma.    |
| CARCINOGENIC<br>POTENTIAL: | Nitrogen is not listed as a carcinogen by NTP, IARC or OSHA. |

#### **SECTION 4. FIRST AID**

| INHALATION:   | Remove exposed person from the area lack of oxygen. Keep<br>warm and comfortable. Ensure air is fresh and clean. If<br>person is not breathing, administer artificial respiration. If<br>breathing is difficult, administer oxygen. Obtain prompt<br>medical attention. |
|---------------|---|
| EYE CONTACT:  | Wash eyes with water.   |
| SKIN CONTACT: | No harm expected  |
| SWALLOWING:   | Nitrogen is in gaseous form in normal temperature and pressure.   |

# SECTION 5. FIRE FIGHTING MEASURESFLAMMABLE:NoFLASH POINT:Not applicableAUTOIGNITION TEMPERATURE:Not applicableEXTINGUISHING MEDIA:Use extinguishing agents suitable for the surrounding environment.HAZARDOUS COMBUSTION PRODUCTS:Non.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Remove all personnel from affected area. Ventilate area and monitor oxygen concentration before allowing entry. Use appropriate protective equipment. Leak checking may be done by using soapy water or by pressure drop test.

#### SECTION 7. HANDLING AND STORAGE

Compressed nitrogen is supplied in high pressure cylinders. Store cylinders in dry well ventilated area. Area temperature must be below 52 °C. Secure cylinders upright on a level, fireproof floor. Screw valve protection cap must be done firmly in place by hand. Do not roll or slide cylinder. Use appropriate pressure reducing regulator. Do not overheat the cylinder.

Never attempt to insert an object into cylinder valve.

### **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**VENTILATION:** Provide good ventilation to prevent accumulation of high concentration of gas. Oxygen concentration must be higher than 19.5 %.

**EYE PROTECTION:** Safety glasses are recommended when handling high pressure cylinders.

**CLOTHING:** Protective clothing is not required.

GLOVES: Leather work gloves are recommended when handling high pressure cylinders.

**RESPIRATORY PROTECTION:** In emergency or if engineering controls and work practices are not effective in controlling exposure, AS1715/1716 approved respiratory equipment is needed.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

| APPEARANCE:                             | Colorless gas            |
|---|--------------------------|
| PHYSICAL STATE:                         | Gas                      |
| ODOUR:                                  | Odorless and tasteless   |
| MOLECULAR WEIGHT:                       | 28.01                    |
| BOILING POINT (1 atm):                  | -195.8 °C                |
| SPECIFIC GRAVITY(Air=1):                | 0.967                    |
| SOLUBILITY IN WATER:                    | 0.023 m <sup>3</sup> /kg |
| SPECIFIC VOLUME (at 21.1 °C and 1 atm): | 0.867 m3/kg              |
| FREEZING / MELTING POINT:               | -209.9 °C                |
| VAPOUR PRESSURE ( at 21.1 °C)           | Not applicable           |
| FLAMMABILITY:                           | Non flammable            |
| <b>IGNITION TEMPERATURE:</b>            | Not applicable           |
| <b>CRITICAL TEMPERATURE:</b>            | -146.9 °C                |

# **10. STABILITY AND REACTIVITY**

| CHEMICAL STABILITY:                  | Stable        |
|--------------------------------------|---------------|
| MATERIALS TO AVOID:                  | Not available |
| INCOMPATIBILITY:                     | Not available |
| HAZARDOUS DECOMPOSITION<br>PRODUCTS: | Not available |
| HAZARDOUS REACTION:                  | No reaction   |
| HAZARDOUS POLIMERIZATION:            | Not occur     |

#### **11. TOXICOLOGICAL INFORMATION**

| INHALATION: | Nitrogen is a simple asphyxiate |
|-------------|---------------------------------|
| INGESTION:  | Not applicable                  |
| EYE:        | Can cause severe frost burn     |
| SKIN:       | Can cause severe frost burn     |

#### **12. ECOLOGICAL INFORMATION**

Nitrogen is an atmospheric gas. The atmosphere contains approximately 78 % nitrogen. It does not contain ozone depleting chemical and it is not listed in marine pollutant chemicals.

#### **13. DISPOSAL CONSIDERATIONS**

Dispose in accordance with applicable regulations.

| 14. TRANSPORT INFORMATION     |                      |
|-------------------------------|----------------------|
| PARAMETER:                    | A.D.R                |
| HAZARD CLASS:                 | 2                    |
| SHIPPING NAME:                | Nitrogen, compressed |
| SHIPPING LABEL:               | Nonflammable Gas     |
| <b>IDENTIFICATION NUMBER:</b> | UN 1066              |

#### **15. REGULATORY INFORMATION**

Not all requirements are identified. User of this product is responsible for compliance with local regulations.

#### **16. OTHER INFORMATION**

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