

MATERIAL SAFETY DATA SHEET – CERTIFICATE OF HEALTH

MSDS Nr : 018B
Product name : Carbon dioxide (refrigerated)
Chemical formula : CO₂
Company identification : **BARİT MADEN TÜRK A.Ş.**
BOZKAR Doğal Karbondioksit Tesisleri
Organize Sanayi Bölgesi yanı Karpuzsekisi Köyü
Hacılar / KAYSERİ
Emergency phone numbers : **90 352 322 05 71 – 72**
90 532 355 68 15

2. COMPOSITION/INFORMATION OF INGREDIENTS

Substance/Preparation : Substance (Purity ratio = 99.95%)
Components/Impurities : Contains no other components or impurities which will influence the classification of the product.
CAS Nr : 00124 – 38 – 9
EEC Nr (from EINECS) : 204 – 696 – 9
Commercial Name : Liquid Carbondioxide

3. HAZARDS IDENTIFICATION

Hazards Identification : Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.

In high concentrations may cause asphyxiation.

4. FIRST AID MEASURES

Inhalation : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness.

Victim may not be aware of asphyxiation.

Low concentrations of CO₂ cause increased respiration and headache. Remove victim to uncontaminated area wearing self contained breathing apparatus.

Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin / Eye Contact : Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing.

Obtain medical assistance

Ingestion : Ingestion is not considered a potential route of exposure.

5. FIRE FIGHTING MEASURES

Specific Hazards : Exposure to fire may cause containers to rupture/explode.
Non flammable

Hazardous combustion products : None

Suitable extinguishing media : All known extinguishants can be used.

- Specific methods** : If possible, stop flow of product.
Move container away or cool with water from a protected position.
If leaking do not spray water onto container.
Water surrounding area (from protected position) to contain fire.
- Special protective equipment for fire fighters** : In confined space use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions** : Evacuate area. Use protective clothing. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.
- Environmental Precautions** : Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
- Clean Up Methods** : Ventilate area.

7. HANDLING AND STORAGE

- Handling and storage** : Suck back of water into the container must be prevented.
Do not allow backfeed into the container.
- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt Refer to supplier's container handling instructions. Keep container below 50°C in a well ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Exposure limit value - TLV(ACGIH)** : 5000 ppm (1995-1996 edition)
- Exposure limit value for country** : Great Britain: STEL: 15000 ppm LTEL: 5000 ppm (EH 40/97)
Germany: MAK= 5000 ppm
- Personal protection** : Ensure adequate ventilation.
Protect eyes, face and skin from liquid splashes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight	:	44
Melting Point	:	- 56.6 °C
Boiling Point	:	- 78.5 °C
Critical Temperature	:	30 °C
Relative Density, Gas	:	1.52 (air=1)
Relative Density, Liquid	:	1.03 (water=1)
Vapour Pressure 20°C	:	57.3 bar
Solubility mg/l Water	:	2000 mg/l
Appearance/Colour	:	Colourless liquid
Odour	:	No odour warning properties.
Other Data	:	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10. STABILITY AND REACTIVITY

Stability and Reactivity : Stable under normal conditions.
Liquid spillages can cause embrittlement of structural materials.

11. TOXICOLOGICAL INFORMATION

General : In high concentrations cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.

12. ECOLOGICAL INFORMATION

General : When discharged in large quantities may contribute to the greenhouse effect.
Can cause frost damage to vegetation.

13. DISPOSAL CONSIDERATIONS

General : Do not discharge into any place where its accumulation could be dangerous.
Discharge to atmosphere in large quantities should be avoided.
Contact supplier if guidance is required.

14. TRANSPORT INFORMATION

UN No : 2187
Proper shipping name : Carbon dioxide, refrigerated liquid
Class/Div : 2.2
ADR/RID Item Nr : 2,3°A
ADR/RID Hazard Nr : 220
Labelling ADR : Label 2: non flammable non toxic gas
Other transport information : Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
Before transporting product containers ensure that they are firmly secured and:
- there is adequate ventilation.
- compliance with applicable regulations.

15. REGULATORY INFORMATION

Number in Annex I of Dir 67/548 : Not included in Annex I.
EC Classification : Not classified as dangerous substance.
EC Labelling (Symbols, R&S phrases) : No EC labelling required.

16. OTHER INFORMATION

Asphyxiant in high concentrations. May cause frostbite. Keep container in well ventilated place.
Do not breathe the gas. Ensure all national/local regulations are observed.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.
Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

