# Barium Nitrate

**CAS No:** 10022-31-8  
**RTECS No:** CO9625000  
**UN No:** 1446  
**EC No:** 056-002-00-7  
**RTECS No:** CQ9625000

**Nitric acid, barium salt**  
**Barium dinitrate**  
**Ba(N₂O₆)**  
**Molecular mass:** 261.4

## Types of Hazard/Exposure

<table>
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<tr>
<th>Types of Hazard/Exposure</th>
<th>Acute Hazards/Symptoms</th>
<th>Prevention</th>
<th>First Aid/Fire Fighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRE</strong></td>
<td>Not combustible but enhances combustion of other substances.</td>
<td>NO contact with flammable substances.</td>
<td>In case of fire in the surroundings: water in large amounts. NO carbon dioxide.</td>
</tr>
<tr>
<td><strong>EXPLOSION</strong></td>
<td>Risk of fire and explosion on contact with combustible substances and reducing agents.</td>
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</table>

## Exposure

<table>
<thead>
<tr>
<th>Exposure</th>
<th>Prevent Dispersion of Dust! Strict Hygiene!</th>
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</thead>
</table>
| Inhalation | Cough. Shortness of breath. Sore throat. see Ingestion.  
Local exhaust or breathing protection. | Fresh air, rest. Refer for medical attention. |
| Skin | Redness. Pain. | Protective gloves. | First rinse with plenty of water, then remove contaminated clothes and rinse again. |
| Eyes | Redness. Pain. | Safety goggles. | First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor. |

## Spillage Disposal

Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Then wash away with plenty of water. Do NOT let this chemical enter the environment. Personal protection: P2 filter respirator for harmful particles.

## Packaging & Labelling

- **Xn Symbol:** R: 20/22  
  S: (2-)28  
  UN Hazard Class: 5.1  
  UN Subsidiary Risks: 6.1  
  UN Pack Group: II  
- **Do not transport with food and feedstuffs. Marine pollutant.**

## Emergency Response

Transport Emergency Card: TEC (R)-51GOT2-I+II+III.

## Storage

Separated from combustible and reducing substances, powdered metals and food and feedstuffs.

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Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission © IPCS 2004  
SEE IMPORTANT INFORMATION ON THE BACK.
**IMPORTANT DATA**

**Physical State; Appearance**
COLORLESS TO WHITE CRYSTALS OR CRystalline Powder.

**Chemical dangers**
The substance decomposes on heating producing nitrogen oxides. The substance is a strong oxidant and reacts with combustible and reducing materials. Reacts with powdered metals causing fire and explosion hazard.

**Occupational exposure limits**
TLV: (Barium, soluble) 0.5 mg/m³ as TWA; A4; (ACGIH 2004). MAK: (inhalable fraction) 0.5 mg/m³; Peak limitation category: II(2); (DFG 2003).

**Routes of exposure**
The substance can be absorbed into the body by inhalation and by ingestion.

**Inhalation risk**
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.

**Effects of short-term exposure**
The substance is irritating to the eyes, the skin and the respiratory tract. Exposure could cause hypokalaemia, resulting in cardiac disorders and muscular disorders. Exposure may result in death.

**PHYSICAL PROPERTIES**

<table>
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<tr>
<th>Decomposes below boiling point</th>
<th>Density: 3.24 g/cm³</th>
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<tr>
<td>Melting point: 590°C</td>
<td>Solubility in water, g/100 ml at 20°C: 8.7 moderate</td>
</tr>
</tbody>
</table>

**ENVIRONMENTAL DATA**
The substance is harmful to aquatic organisms.

**NOTES**

Temperature of decomposition unknown in literature.
Rinse contaminated clothes (fire hazard) with plenty of water.
Will turn shock-sensitive if contaminated with magnesium-aluminium alloys, sulfur powder or light metal powder.
Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.

**ADDITIONAL INFORMATION**

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible