

**Trade name: EMULEX 2 and 2 PLUS**Revision: 01.11.2016
Printing date: 1/17/2019**1. Product identification****1.1. Product name**

Explosive emulsion in cartridges - Emulex 2 – Emulex 2 Plus

1.2. Recommended uses of the product:**Explosive for use in civil applications:**

Open-air and underground mining

Quarries

Civil works and demolitions

1.3. Safety sheet supplier's data

Austin Powder Argentina S.A.- Luis Maggi 770 - Rafaela (Santa Fe) - Phone: + 54 3492 434851 - Fax: + 54 3492 433905 88

1.4. Emergency phone numbers

+54 3492 424775

2. Hazard identification**2.1. Classification of the mixture****Classification according to SGA - 5^o Edition****Physical hazards** Explosives - Division 1.1 - Danger

- Health hazards** Eye irritating agent - Category 2B - Attention
Skin irritating agent – Category 2 - Attention

Human and environmental-specific hazards:

Substances and goods that present a risk of mass explosion.

The product must be labelled according to the established regulations listed in the "Globally Harmonized System of Classification and Labelling of Chemical Products", according to resolution 801/15 of the Labour Risks Superintendency (SRT).

2.2. Label elements:**Labelled according to UE norms:****Warning:**

Hazard

Danger indications:

H201 Explosive; mass explosion hazard.

Caution advice:

- P221 Take all the precautions necessary so as not to mix with combustible material.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke.
- P250 Avoid abrasion/shock/friction/...

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|--------------------|--|
| P280 | Use gloves/protective clothing/eye and face protection. |
| P305 + P351 + P338 | IN CASE OF CONTACT WITH THE EYES: rinse carefully with water for several minutes. Remove contact lenses, if applicable and removal is easy. Continue rinsing |
| P373 | Do NOT try to extinguish fire when it reaches the explosives. |
| P306 + P360 | IN CASE OF CONTACT WITH CLOTHES: Rinse contaminated skin and clothes immediately with plenty of water before taking off the clothes. |
| P370 + P380 | In case of fire: Evacuate the area. |
| P301 + P312 | IN CASE OF INGESTION: Call a TOXICOLOGICAL INFORMATION CENTER or a doctor if the person feels unwell. |
| P372 | Explosion risk in case of fire. |
| P313 | Seek medical advice. |
| P302 + P352 | IN CASE OF CONTACT WITH THE SKIN: wash with plenty of water and soap. |
| P401 | Store according to national/international/regional/local regulations. |
| P501 | Eliminate the content/container according to the regulations for dangerous products. |

3. Composition/information on ingredients

3.1. Substances

3.2. Mixtures

| Components | CAS | Classification | Rank |
|--------------------|-----------|--|-----------------|
| Ammonium nitrate | 6484-52-2 | Ox. Oxidating agent: 3 - H272; Eye irritating agent 2 - H319 | Between 50-80% |
| Sodium nitrate | 7631-99-4 | Ox. sol. 2, H272; Acute tox. in case of ingestion 4, H302, skin irritating agent 2, H315; eye irritating agent 2, H319; respiratory tract irritating agent 3, H335 | Between 10-25% |
| Powdered aluminium | 7429-90-5 | Flammable 2, H228 – Reactive to water 2 - H261 | Between 0-1-10% |
| Sodium nitrite | 7632-00-0 | Ox. Sol. 3 H272 May intensify a fire; combustion agent. Acute toxicity 3 H301 Toxic in case of ingestion. Aquatic Acute 1 H400. Very toxic for aquatic organisms. | 0.07% |

4. First aid

4.1. Description of necessary first aid measures

- **General information:**

Poisoning symptoms can appear after several hours; therefore, seek medical monitoring by at least 48 hours after the incident.

- **Inhalation:**

Take the person to open air and keep them at rest in a comfortable position for breathing. Seek medical advice immediately.

- **Skin contact:**

Wash with plenty of water and mild soap Seek medical advice.

- **Eye contact:**

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Wash with plenty of water for at least 15 minutes. Seek medical advice.

- **Ingestion:**

Wash mouth with water. Seek medical care immediately.

4.2. Most important symptoms and effects, both acute and delayed:

No other relevant information available

4.3. Indication of immediate medical care or special treatment needed:

No other relevant information available

5. Firefighting procedures**5.1. Appropriate extinguishing media**

Do not extinguish fire. Evacuate personnel immediately. Let the fire extinguish by itself.
In particular situations, flood with water by means of a remote system.

5.2. Mixture specific hazards

During heating or in case of fire the following gases are released:

Nitrous oxide (NO_x)

Carbon monoxide (CO)

Ammonia (NH₃)

5.3. Special procedures to be taken by firefighting teams

If directly surrounded by fire: do not extinguish the fire, give warning and evacuate the area for at least 800 meters.

If not directly surrounded by fire: remove the product from the danger area. Stop the fire from reaching the product.

- **Protection equipment**

Use positive pressure self-contained breathing equipment. Use complete protection equipment.

- **Additional information**

Collect the contaminated water used for the extinction of the fire. Such water must not enter the drainage system.

Give warning about explosion hazard.

6. Procedures in case of spills**6.1. Personal precautions, protective equipment and emergency procedures**

Keep away from sources of ignition

All the people whose presence is not necessary must be removed from the affected area.

Avoid contact with skin, eyes and clothes.

Avoid shock wave or friction

6.2. Precautions in relation with the environment

Do not allow the product to enter to the drainage system or reach a watercourse.

Report to the corresponding authorities in case that the product reaches the drainage system or a watercourse.

In case of filtration in the earth, report to the competent authorities.

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- Pick-up mechanically.
- Give warning about explosion hazard.

7. Handling and storage**7.1. Precautions for safe handling**

- Keep containers closed.
- Handle with precaution. Avoid shaking, friction or shocks.
- Keep away from heat or solar light.
- Avoid dust formation.
- Information on protection against explosions and fire:**
 - Keep away from sources of ignition. Do not smoke.
 - Provide fire extinguishers.
 - Keep respiratory protection available.

7.2. Conditions for safe storage, including any incompatibilities

- Requirements regarding warehouses and containers:**
 - Store in a well-ventilated place.
- Information about storage in a single warehouse:**
 - Store separated from oxidating agents
 - Store separated from reduction agents.
- Recommended storage temperature:**
 - Storage at up 60°C is safe.

8. Exposure controls/personal protection**8.1. Control parameters**

- Components with permissible limit values that must be controlled in the workplace:**

7429-90-5 Powdered aluminium (pyroforic) (2.5-10%)Long term value: 10* 4** mg/m³

*Inhalable powder** Breathable powder

8.2. Appropriate technical controls

- Protective and hygiene measures:**
 - Reduce the number of individuals at the work area to the minimum. Authorized personnel only.

8.3. Measures for individual protection

- Protective and hygiene measures**
 - Keep away from drinks and foods.
 - Take contaminated clothes off immediately.
 - Wash hands before eating and after finishing the work.
 - Avoid contact with eyes and skin.
- Respiratory protection**

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Not required under normal conditions

• Protection for hands

Protective gloves.

The material of gloves must be waterproof and resistant to the product/substance/preparation.

The selection of the material of gloves must consider the penetration time and the degradation and diffusion degree.

Not required for handling the product when packed.

• Material of gloves

Nitrile

Neoprene

The selection of the gloves available depends not only on the material, but also on the trademark, quality and other characteristics that are different among manufacturers. Since the product is a preparation of several substances, the resistance of the material of the gloves does not need to be calculated beforehand and must be checked before its use.

• Eye protection

Use security glasses.

• Protection for the body

Working clothes.

9. Physical and chemical properties

| | |
|-------------------------------------|--|
| • Appearance | |
| Form: | Solid paste, covered in plastic film |
| Colour: | Grayish white |
| • Odour: | Odourless |
| • Change of state | |
| Melting point/melting range | Not available |
| • Flash point: | Not available |
| • Ignition temperature: | Not available |
| • Decomposition temperature: | > 170°C |
| • Deflagration point: | 250°C |
| • Autoflammability: | The product does not autoignite. |
| • Danger of explosion: | Danger of explosion due to impact, friction, fire and other sources of ignition. The heat can cause an explosion. |
| • Density: | 1.1- 1.3 gr/cm ³ |
| • Solubility in water: | Soluble |

10. Stability and reactivity

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It can explode if exposed to fire or heat, especially when confined and in great amounts, or if detonated.
Do not to use in reactive grounds.

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Thermal decomposition initiates at 170°C.

10.4. Conditions to be avoided

Heat, flames, sparks, shocks and friction. (danger of explosion)

10.5. Incompatible materials

Alkalis, strong acids.

10.6. Dangerous decomposition products

Gaseous nitrogen oxides and carbon oxides in case of fire or ammonia.

11. Toxicological information**• Acute toxicity:**

No data available.

• Primary irritating effects:

On the skin: It causes skin and mucous membranes irritation.
On the eyes: It causes eye irritation.

• Sensitization:

Non-sensitizing.

• Additional toxicological information:

No data available.

• Information about possible routes of exposure

Toxic if swallowed.
Irritating

12. Ecotoxicological information**12.1. Toxicity****• Aquatic toxicity:**

Not available.

Ecotoxicological effects:

Ammonium nitrate, CAS 6484-52-2 for aquatic organisms: LD50/96 h 10-100 ppm

For fish 800 mg/L lethal in 3.9 hs

Sodium nitrate; 7631-99-4

Toxicity on fish LC50>1000 mg/L 96 h

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|---|
| Daphnia Daphnia LC50>1000 mg/L24 h |
| 12.2. Persistence and degradability: Easily biodegradable |
| 12.3. Bioaccumulative potential: Not available. |
| 12.4. Mobility in soil: Not available. |
| 12.5. Results of PBT and vPvB assessment: Non-applicable |

13. Disposal considerations**13.1. Methods of waste treatment.**• **Recommendations:**

Do not dispose of together with household waste. Do not allow the product to reach the drainage system.

• **Packaging without cleaning:**

Recommendations: They must be disposed of according to official regulations (incineration)

14. Information on transport**14.1. UN number**

• ADR, IMDG, IATA: 0241

14.2. UN shipping name

• ADR: 0241 Explosive Type E

• MERCOSUR 0241 Explosive Type E

• IMDG: 0241 Explosive Type E

• IATA Prohibited

14.3. Transport hazard class• **ADR:**

Classes 1.1D Explosive substance or product

Tunnel restriction code: B1000C

• **IMDG:**

Classes: 1.1 D


• **IATA:**

Class 1

Remarks Prohibited

14.4. Packing group

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|--|---|
| Label marking |  |
| 14.5. Packing group | |
| • ADR, IMDG: | No n-applicable |
| 14.6. Environmental risk | |
| • Sea contaminant | No |
| 14.7. Special precautions for use | |
| • Warning | Danger Explosive substance/product |
| • Danger code (Kemler): | 1.1D |
| • EMS number: | F-B, S-X |
| 14.8. Code of bulk transport according to ANNEX II of MARPOL73/78 and IBC | No data available. |

15. Regulatory information**15.1. Regulations/safety, hygiene and environment legislation for the substance or mixture.**

- **National regulation:**
Act 19587 Regulatory decree 351/79 and Decree 295/2003
Act 20429 and decree 302/83

15.2. Chemical security assessment:

No chemical safety assessment has been carried out.

16. Other information**References and acronyms**

IMDG Code: International Maritime Code for dangerous goods transportation.
IATA-DGR: Association of International Air Transport - Regulations on Dangerous Goods.
MERCOSUR: Southern Common Market - Agreement on Transport of Dangerous Goods
ADR: European Agreement concerning the international transport of dangerous goods by road.

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