

Material Safety Data Sheet

AMEX SERIES

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: AMEX PACKAGED SERIES
 Chemical name: Not applicable
 Synonyms: Amex, Amex LD, Amex UH
 Chemical family: Explosives (High explosive)
 Formula: Not applicable
 Description: Explosive emulsion sensitive to Booster starter
 Uses: Construction, Mining and Cement Industry
 Supplier: Orica Mining Services, LA PORTADA Plant.
 Address: Camino a Mejillones Km. 18, Antofagasta - Chile
 Telephone number: +56 55 56 56 34
 Fax: +56 55 56 56 33
 Emergency telephone: In Chile: 55 56 56 33/ 9 873 27 84
 Out of Chile: +56 55 565 633/ +56 99 873 47 84
 (**Night and day.** In case of chemical emergency such as spill, leakage, fire or accident).

2. COMPOSITION / INFORMATION OF INGREDIENTS

Product Description: "Use: Mining, quarries and blasting works in general. Explosive agent, sensitive to high explosive load. Normally provided in 25kg bags.

Components/	CAS Number	Proportion	Risk phrase
Ammonia nitrate	6484-52-2	>90%	-
Water	7732-18-5	<2%	Non dangerous
Alleviating		<3%	-
Colourant		<2g/bag	-
Mineral oil	8012-95-1	< 10%	-

3. HAZARDS IDENTIFICATION

Emergency – Global aspect: Risk for explosion, friction or other way of ignition. Eyes irritant. It may cause methemoglobinemia. Read the MSDS complete for more information of the dangers evaluation.

4. FIRSTS AIDS MEASURES

General: In case of accident or if you feel sick. Seek medical advice IMMEDIATELY (show the product label).

- Inhalation:** If the person presents breathing problems, move the victim to a well-ventilated place. Give artificial respiration **ONLY** if the breathing is blocked. Initiate CPR if there is no breathing or pulse. Seek medical attention **IMMEDIATELY**.
- Skin:** Wash the affected area with potable water (sprinkler if possible) and soap. If there is irritation, blush or the sensation of burning that develops and persists, go to a medical centre for medical help.
- Eyes:** Wash out immediately with potable, keeping open eyelids for a minimum period of 20 minutes. If there is irritation, repeat the wash out and send to a medical centre for help.
- Ingestion:** If the victim is awake and does not present seizures, wash mouth and give half to take a glass of water to dilute the product. **NO CAUSE TO VOMITING**. If vomiting occurs spontaneously, making the victim kept his head tilted to one side and to prevent aspiration of vomit, rinse the mouth and make take more water. Move immediately to the victim to a health care facility
- Medical treat:** Symptomatic treatment. Administer oxygen if there are Cyanosis signs. If the clinic conditions do not improve, administer 10cc of intravenous methylene blue; in order to avoid that the methaemoglobin under 40%.

5. FIRE FIGHTING MEASURES

Specific danger: Explosive material, avoid any ignition source.

Fire fighting means: In case of small fire if the current explosive is not burnt, carefully remove as much explosive as necessary at a safe distance.
Fire fighters will use devices or auto-contained air, if there is a risk of fumes or combustion products, however if the explosive is burnt evacuate areas immediately.
DO NOT FIGHT FIRE. In burnings under confinement or semi confinement conditions, some nitrogen oxides and/or carbon monoxide will be present, brown fumes indicate the presence of toxic nitrogen oxides.

6. HANDLING AND STORAGE

Area free of all non-protected personnel. Eliminate all source of ignition. In case of transport accident notify the police and Orica Chile Tel. +56 9 9 8734784.

7. HANDLING AND STORAGE

Recommendations for handling: Avoid the contact with other chemicals, avoid contact with skin and eyes: Not to expose material to impacts, friction between hard surfaces or any way of heat.

Recommendations to store: The Ammonium Nitrate is compatible with, and must be stored away of the tetra-nitro-methane, acid cichloroisocyanuric acid, some bromate, chloride, hypochlorite or chloroisocyanurate or some organic nitrate. Store material in a well-ventilated magazine adequate for class 1.1D explosive.

Deteriorated Product: The process of deterioration is a gradual break of the phase of emulsion joined with ammonium nitrate crystallization, if there are signs of deterioration the product must be tested at fire before its use.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Recommendable Limits of Personal Exposure: It does not have assigned value for this specific material, for the safety national commission and occupational health, however the exposure standard for the ingredients:

Mist of refined mineral oil: TWA 8h= 5mg/m³

Paraffin waxes (Fumes): TWA 8h = 2mg/m³ as the published by the safety national commission and occupational health of Australia.

TWA: Is the average of concentration pondered in time, over the 8-hours working day, for a 5-working-days week, over an entire labouring day.

These standards of exposure are guides to be used in the occupational health risks control. All the atmospheric contamination must be kept at a so small level as possible.

This standard of exposure must not be used as watershed between chemical dangerous concentrations. There is no relative toxicity measure.

The supplier recommends the following exposure standard.

Diesel oil: 500mg/m³, total steam (approx.100 ppm) or 5mg/m³ of stable aerosol (TWA) for 8h. Weighted average in time.

Engineering conditions measures: Safe ventilation is acceptable if the components air concentrations are controlled under the exposure standard figure.

Personal equipment protection: ORICA Guide of EPP No 1, 1998:A - Overalls, safety shoes, chemical eyeglasses, gloves.

Wash out the contaminated clothing and other protective equipment before its store or reuse. Always wash out before smoking, eating, drinking or using the toilet. Wear overalls, chemical eyeglasses and protective gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Creamy mix of grey to beige colour inlaid in a plastic wrap with metallic clips at both sides.
Colour:	Grey to beige colour.
Odour:	Negligible
Solubility:	Insoluble in water
Specific gravity:	1.10-1.25 @ 20°C
Flash point:	Not applicable.

10. STABILITY AND REACTIVITY

Stability: Detonation might occur for strong impact or excessive heat, particularly under confinement. The ammonium nitrate is a strong oxidant agent. It is incompatible with tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, bromate, chlorate, chlorite, hypochlorite or chlorocyanurate and inorganic nitrate and metallic dusts. When it is heat at decomposition (non-confined) it produces nitrous oxides, ammonium nitrate and water fumes, when it is mixed with strong acids and occasionally during a blasting it produces a maroon toxic gas irritant mainly

nitrogen dioxide. When it melts it may decompose violently due to shock or pressure, it may occur detonation for a strong impact, excessive heating particularly under confinement.

11. TOXICOLOGICAL INFORMATION

Adverse to effects health is not expected, if the product is handled according to this safety datasheet and the product label. Symptoms or effects may occur if the product is badly handled or there is suspected overexposure:

Ingestion: May cause nausea, vomits, diarrhoea and abdominal pain. Other symptoms include headache and dizziness.

Contact with eyes: May be an ocular irritant.

Contact with skin: Contact with the skin may result in irritation; it has a degreasing action in the skin. Repetitive or prolonged with the skin may lead to irritant contact dermatitis. It might be absorbed through wounds, lacerations or burnt skin with resulting adverse effects. The contact with hot material may cause burns in the skin.

Inhalation: The material can be irritant to the respiratory tract mucosa membranes. Steams breathing might result in headaches, dizziness and possible nausea.

Long term effects: No information available for the product.

Toxicologic data: For the Ammonium nitrate ingredient:

LD50(rat)oral. 2217 mg/kg.: In humans and animals methemoglobinemia under non-treated circumstances followed to over exposure to nitrates. The absorption of nitrates has occurred for some path might cause dilatation of blood vessels for a direct muscle relaxation.

12. ECOLOGICAL INFORMATION

Avoid contamination of navigable ways.

13. FINAL DISPOSAL CONSIDERATIONS

Small quantities or deteriorated/damaged explosives can be destroyed for inclusion in a blasting borehole containing explosive products.

For great quantities of damaged or deteriorated explosives, notify to ORICA Chile in its production plant.

14. TRANSPORT INFORMATION

Transport for train and road.

Classified as dangerous material by the Australian Code criteria for the transport of explosive by roads and train

UN Identification: No. 0331

Class: 1.5D Explosive.



Transport Name: Explosive type E.
Chemical Risk Code: E
Communication of Risks: Irritant oxidant explosive.

Sea Transport:

Classified as dangerous material under the sea international code for dangerous materials for sea transport.

UN No: 0331

Class: 1.5D explosive.

Name for explosive transport: Type E.

Air transport:

TRANSPORT FORBIDDEN under regulations of dangerous goods from the International Association of Transport by Air (IATA) for the transport by air in passenger planes and freight cargos.

15. REGULATORY INFORMATION

This product is an “explosive” and will have to fulfil with “General Regulation of Transport of Dangerous Goods” valid and with the “National Law of Weapons and Explosives”.

16. OTHER INFORMATION

Data consigned upon this Informative Sheet were obtained from dependable sources. However, they are provided without express or implied guarantee in relation to their accuracy or adjustment. Opinions expressed in this paper belong to qualified professionals. The information provided is the one currently known on the subject.

Considering the use of this information and the products out of the suppliers' control, the company does not take responsibility for this concept. The determination of safe use of this product is obligatory for the user.

The purpose of this document is to serve as a summarized information source for workers and employees, managers, executives, safety heads, physicians and other professionals that may need. It is not claimed to provide all the specialized information, but the most important knowledge about it.