

Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **ANOPRIL F.A.N.**

Other name(s): Ammonium nitrate, Fine ammonium nitrate

Recommended use of the chemical and restrictions on use: Explosives manufacture.
Limitations on use: Use in accordance with supplier's recommendations.

Supplier: PT Kaltim Nitrate Indonesia
Street Address: Sentral Senayan I, 6th Floor,
Jl. Asia Afrika No. 8,
Jakarta 10270
ID

Telephone Number: +62 21 572 3070

Emergency Telephone Number: **+62 548 3040100**
+61 3 9663 2130

2. HAZARD(S) IDENTIFICATION

Classified as hazardous according to the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Classification of the substance or mixture:

Oxidising solids - Category 3
Acute toxicity - oral - Category 5
Serious eye damage/eye irritation - Category 2A
Specific target organ toxicity (single exposure) - Category 2
Specific target organ toxicity (single exposure) - Category 3

SIGNAL WORD: WARNING

Hazard Pictogram(s):



Hazard Statement(s):

H272 May intensify fire; oxidizer.
H303 May be harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H371 May cause damage to organs (blood).

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Precautionary Statement(s):

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P220 Keep/Store away from clothing/incompatible materials/combustible materials.
 P221 Take any precaution to avoid mixing with combustibles/incompatible materials.
 P264 Wash hands thoroughly after handling.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.

Response

P370+P380 In case of fire: Evacuate area.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P 304 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion (w/w)	Hazard Codes
Ammonium nitrate	6484-52-2	>98%	-
Other minor ingredients	-	<2%	-

4. FIRST-AID MEASURES

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:

If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice. Nitrates can be absorbed through cut, burnt or broken skin. Launder contaminated clothing before reuse.

Eye Contact:

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical advice.

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Indication of immediate medical attention and special treatment needed:

Treat as for exposure to nitrates. May cause methemoglobinemia. Clinical findings: The smooth muscle relaxant effect of nitrate salts may lead to headache, dizziness and marked hypotension.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Water spray (large quantities).

Unsuitable Extinguishing Media:

Dry agent (carbon dioxide, dry chemical powder).

Specific hazards arising from the substance or mixture:

Oxidizing substance. Nitrate salts on their own are not combustible, however they support the combustion of other materials. May increase intensity of fire. Explosion risk in case of fire. Decomposes on heating emitting irritating white fumes. Brown fumes indicate the presence of toxic oxides of nitrogen.

Special protective equipment and precautions for fire-fighters:

Nitrate salts on their own are not combustible, however they will support the combustion of other materials. Decomposes on heating emitting irritating white fumes. Brown fumes indicate the presence of toxic oxides of nitrogen. On detection of fire the compartment(s) should be opened up to provide maximum ventilation. Fire-fighters to wear self-contained breathing apparatus and suitable protective clothing if there is a risk of exposure to products of combustion/decomposition. Fires should be fought from a protected location. Keep containers and adjacent areas cool with water spray. If safe to do so, remove containers from path of fire. A major fire may involve a risk of explosion. An adjacent detonation may also involve the risk of explosion. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures / Environmental precautions:

Shut off all possible sources of ignition. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contact. Avoid breathing in dust. Work up wind or increase ventilation.

Personal precautions / Protective equipment / Methods and materials for containment and cleaning up:

Contain - prevent run off into drains and waterways. Sweep up, but avoid generating dust. Collect and seal in properly labelled containers, bags or drums for disposal or re-use. (Loose fitting lids). DO NOT return spilled material to original container. Ensure that contaminated material (clothing, pallets) is thoroughly washed. If contamination of sewers or waterways has occurred advise local emergency services.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Keep containers closed when not in use - check regularly for spills. Store away from combustible materials including organic materials, reducing agents, metal powders, strong acids, nitrites, chlorates, chlorides and permanganates. Store away from incompatible materials described in Section 10. Store away from possible contaminants. Ammonium Nitrate is incompatible with, and must be stored away from, tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite or chloroisocyanurate or any inorganic nitrite.

If using wooden pallets, these must be hardwood and periodically washed down with large amounts of water to remove all traces of the material. Concrete floors are recommended for storage. If ammonium nitrate is to be stored in bulk, the surface must be treated so that it is resistant to attack by an oxidising agent. Bulk ammonium nitrate should not be stored on a bituminous floor.

This product when stored in a confined, unventilated space/hold can give off ammonia or other odour and lead to the depletion of oxygen within this space and other confined spaces. It is therefore essential that ventilation is carried out prior to entry to all ship holds.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material.

Appropriate engineering controls:

Use in well ventilated areas. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. In confined spaces, ensure sufficient oxygen (19.5%) exists before entry.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependant on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.

Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If excessive dust exists, wear dust mask/respirator. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid - Granules or Prills
Colour:	White to Off-white
Odour:	Negligible
Solubility:	Soluble in water.
Specific Gravity:	0.83 g/cm ³ max. (bulk density)
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not available
Melting Point/Range (°C):	160 - 169
Boiling Point/Range (°C):	Decomposes
Decomposition Point (°C):	210 approx
pH:	4.5 - 6 (10% solution @ 20°C)
Viscosity:	Not applicable
Evaporation Rate:	Not applicable
Partition Coefficient:	Not available

10. STABILITY AND REACTIVITY

Reactivity:	Oxidising, avoid contact with reducing agents.
Chemical stability:	May explode under confinement and high temperature, but not readily detonated. When molten may decompose violently due to shock or pressure. Hygroscopic: absorbs moisture or water from surrounding air.
Possibility of hazardous reactions:	Oxidising agent. Supports combustion of other materials and increases intensity of a fire. Will react with organic materials, and reducing agents. Reacts with nitrites, chlorides, chlorates, permanganates and metal powders. When mixed with strong acids, and occasionally during blasting, it produces an irritating toxic brown gas, mostly of nitrogen dioxide. When molten may decompose violently due to shock or pressure. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame. Will react with organic materials and reducing agents. Avoid contact with combustible substances. Avoid contact with other chemicals. Avoid dust generation.

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Incompatible materials: Incompatible with combustible materials. Incompatible with reducing agents. Ammonium nitrate is a powerful oxidising agent. It is incompatible with tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite, perchlorate, chloroisocyanurate, any inorganic nitrite, and metal powders.

Hazardous decomposition products: Oxides of nitrogen. Ammonium nitrate fumes. Ammonia.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain. Swallowing large amounts may result in headaches, dizziness and a reduction in blood pressure (hypotension).

Eye contact: An eye irritant.

Skin contact: Repeated or prolonged skin contact may lead to irritation. See effects as noted under 'Inhalation'. Can be absorbed through cut, broken, or burnt skin with resultant adverse effects.

Inhalation: Breathing in dust may result in respiratory irritation. Blasting may produce a toxic brown gas of nitrogen dioxide. Inhalation of the gas may result in chest discomfort, shortness of breath and possible pulmonary oedema, the onset of which may be delayed.

Absorption of ammonium nitrate by inhalation, ingestion or through burnt or broken skin may cause dilation of blood vessels by direct smooth muscle relaxation and may also cause methaemoglobinaemia.

Chronic effects from short and long term exposure:

No information available for the product.

Toxicological Data:

Oral LD50 (rat): 2,217 mg/kg for ammonium nitrate

Respiratory or skin sensitisation: No information available.

Germ cell mutagenicity: No information available.

Carcinogenicity: No information available.

Reproductive toxicity: No information available.

Specific Target Organ Toxicity (STOT) May cause damage to organs (blood).

- single exposure:

Specific Target Organ Toxicity (STOT) No information available.

- repeated exposure:

Aspiration hazard: No information available.

Toxicology Special Notes: Following the ingestion of nitrates in humans and animals methaemoglobinaemia has occurred.

12. ECOLOGICAL INFORMATION

Ecotoxicity: The material is not classified as environmentally hazardous, however, this does not exclude the possibility that large and/or frequent spills can have a harmful or damaging effect on the environment. Avoid contaminating waterways.

Persistence and degradability: The material is biodegradable.

Bioaccumulative potential: Not expected to bioconcentrate or bioaccumulate.

Mobility in soil: The material is water soluble and may disperse in soil.

Other adverse effects: No information available.

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Aquatic toxicity: Ammonium nitrate was evaluated at 5, 10, 25 and 50 mg (NH₄⁺)/L. The fertility of *Daphnia magna* was decreased at 50 mg/L. Post embryonic growth of crustacea was impaired at 10, 25 and 50 mg/L.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of contents/container in accordance with local/regional/national/international regulations.

Empty containers must be decontaminated by rinsing thoroughly with water. Rinsing water needs to be disposed of carefully.

14. TRANSPORT INFORMATION

ADR
UN Number: 1942
Transport Hazard Class: 5.1 Oxidizing Agent
Packing Group: III
Proper Shipping Name or Technical Name: AMMONIUM NITRATE
Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN Number: 1942
Transport Hazard Class: 5.1 Oxidizing Agent
Packing Group: III
Proper Shipping Name or Technical Name: AMMONIUM NITRATE

IMDG EMS Fire: F-H
IMDG EMS Spill: S-Q

Marine Pollutant: No

Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN Number: 1942
Transport Hazard Class: 5.1 Oxidizing Agent
Packing Group: III
Proper Shipping Name or Technical Name: AMMONIUM NITRATE

15. REGULATORY INFORMATION

Classification: Classified as hazardous according to the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Classification of the substance or mixture: Oxidising solids - Category 3
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Specific target organ toxicity (single exposure) - Category 3

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Hazard Statement(s): H272 May intensify fire; oxidizer.
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H371 May cause damage to organs (blood).

Applicable regulations

This product is categorized as Hazardous according to Decree of the Minister of Manpower of RI No. 187 of 1999 about the Control of Dangerous Goods in the Workplace.

This product is subject to Regulation of the Head of Indonesian Police No. 2 of 2008 regarding the supervision, control and security of commercial explosives.

CWC (Law of RI No. 9 of 2008 re: Prohibition on the Use of Chemicals as Chemical Weapon)

Not regulated.

Dangerous Substances that Must be Registered (Regulation of the Minister of Health of the Republic of Indonesia)

Not regulated.

Import Control of Dangerous Substances (Decree of the Ministry of Industry and Trade No. 254/MPP/KEP/7/2000, Attachment I)

Not regulated.

Precursor Chemicals (Ministry of Industry and Trade Decree No. 647/MPP/Kep/10/2004 concerning Regulation on Import of Precursors, Attachment 1)

Not regulated.

Prohibited Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 1)

Not regulated.

Restricted Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 2)

Not regulated.

Toxic and Hazardous Materials List (Decree of the Ministry of Industry on the Safeguarding of Toxic and Hazardous Materials in Industrial Plants, No. 148/M/SK/4/1985)

Ammonium nitrate (CAS 6484-52-2)

Hazardous Substances Approved for Use (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment I)

Listed substances

Not regulated.

Listed substances / Allowed until 2040

Not regulated.

Various regulations/controls/authorisations/licences may apply governing the manufacture, importation, exportation, use, handling, storage, sale/supply, transport and disposal of ammonium nitrate.

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16. OTHER INFORMATION

Supplier Material Safety Data Sheet; 06/2012.

This safety data sheet has been prepared by Orica SDS Services.

Reason(s) for Issue:

First Issue Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Orica Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Orica Limited representative or Orica Limited at the contact details on page 1.

Orica Limited responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.