PT Kaltim Nitrate Indonesia

MATERIAL SAFETY DATA SHEET

1. Chemical product and company identification

Product name **Anopril™**

Other identification

Synonyms Ammonium nitrate prills

Manufacturer/Supplier PT Kaltim Nitrate Indonesia

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ID

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Recommended use and Limitations on use

Recommended use Explosives manufacture.

Limitations on use Use in accordance with supplier's recommendations.

2. Hazards identification

GHS classification

Physical hazards	Oxidizing solids	Category 3
Health hazards	Acute toxicity, oral	Category 5
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 2 (blood)
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not classified.	

Label elements

Pictogram

Signal word Warning

Hazard statement May intensify fire; oxidizer. May be harmful if swallowed. Causes serious eye irritation. May cause respiratory irritation. May cause damage to organs (blood).

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

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

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

3. Composition / information on ingredients

Substance or mixture Mixture

Chemical property

Chemical name	CAS Number	Concentration (%)
Ammonium nitrate	6484-52-2	> 98
Other minor ingredients	N/A	< 2

Composition comments All concentrations are in percent by weight.

4. First aid measures

First aid measures for different exposure routes

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Keep victim warm. If patient finds breathing difficult and develops a bluish discoloration 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.
If the affected person is not breathing, apply artificial respiration. Get medical attention immediately.

Skin contact Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention if irritation develops or persists. May be absorbed through cut, broken or burnt skin. Launder contaminated clothing before reuse.

Eye contact Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Seek medical attention.

Ingestion Rinse mouth thoroughly. If swallowed, do NOT induce vomiting. Drink 1 or 2 glasses of water. Seek medical advice.

Most important symptoms and effects Irritation of eyes.

Personal protection for first-aid responders First aid personnel must be aware of own risk during rescue.

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

5. Fire-fighting measures

Extinguishing media Flood fire area with water from a distance.

Extinguishing media to avoid Dry chemical. Carbon dioxide (CO2).

Specific hazards May intensify fire; oxidizer. Substance does not burn but will support combustion. Explosion risk in case of fire. Decomposition of this product may emit oxides of nitrogen.

Special fire fighting procedures In case of fire and/or explosion do not breathe fumes. Containers close to fire should be removed or cooled with water. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

Protection of fire-fighters Wear self-contained breathing apparatus and protective clothing. Be aware of danger of explosion. Evacuate area and fight fire from a safe distance.

6. Accidental release measures

Personal precautions Extinguish all ignition sources. Avoid sparks, flames, heat and smoking.
Keep upwind. Do not breathe dust. Avoid contact with skin and eyes. Use Personal Protective Equipment recommended in Section 8 of the MSDS.

Environmental precautions Do not allow to enter drains, sewers or watercourses.

Spill cleanup methods Avoid generation and spreading of dust. Sweep up or vacuum up spillage and collect in suitable container for disposal. The vacuum cleaner should be explosion-proofed. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. DO NOT return spilled material to original container. After removal flush contaminated area thoroughly with water.

In the event of accidental release, notify relevant authorities in accordance with all applicable regulations.

7. Handling and storage

Handling

Precautions Do not breathe dust. Avoid contact with skin and eyes. Minimize dust generation and accumulation.

Safe handling advice Use with adequate ventilation. Use Personal Protective Equipment recommended in section 8 of the MSDS. Observe good industrial hygiene practices. Do not enter storage areas or confined spaces unless adequately ventilated. Material may deplete oxygen from the air to dangerously low levels.

Storage

Technical measures	Concrete floors are recommended for storage. If the product is to be stored in bulk the surface must be treated so that it is resistant to attack by oxidizing agents. Bulk Ammonium nitrate should not be stored on a bituminous floor.
Suitable storage conditions	Store in accordance with local/regional/national/international regulation. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Do not store in direct sunlight. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. If using wooden pallets, these must be hardwood and periodically washed down with large amounts of water to remove all traces of the material.
Incompatible materials	Organic material. Reducing agents. Strong acids. Tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite, perchlorate, chloroisocyanurate, any inorganic nitrite, and metal powders.

8. Exposure controls/personal protection

Exposure limits	No exposure limits noted for ingredient(s).
Engineering measures	Ventilate as needed to control airborne dust. In confined spaces, make sure the area is well-ventilated and sufficient oxygen (19.5%) exists before entry.
Personal protective equipment	
Respiratory protection	In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.
Hand protection	Use impervious gloves. Suitable gloves can be recommended by the glove supplier.
Eye protection	If contact is likely, safety glasses with side shields are recommended.
Skin and body protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Do not get in eyes, on skin, on clothing. Handle in accordance with good industrial hygiene and safety practice. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Granules or prills.
Color	White to off-white.
Odor	Negligible
Odor threshold	Not available.
pH	4.5 - 6 (10% solution @20°C)
Melting point/freezing point	320 - 336.2 °F (160 - 169 °C)
Boiling point, initial boiling point, and boiling range	Decomposes (approx 210°C)
Flash point	Not applicable.
Auto-ignition temperature	Not available.
Flammability (solid, gas)	Non combustible.
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Evaporation rate	Not available.
Relative density	0.72 - 0.80 g/cm³ (Bulk density)
Density	Not available.
Solubility	Soluble in water.
Partition coefficient (n-octanol/water)	No data available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity Oxidizing, avoid contact with reducing agents.

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.

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Protect against direct sunlight. Heat may cause the containers to explode. Minimize dust generation and accumulation. Keep away from combustible material. Keep away from incompatible material. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Incompatible materials Combustible material. Strong reducing agents. Tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite, perchlorate, chloroisocyanurate, any inorganic nitrite, and metal powders.

Hazardous decomposition products Nitrogen oxides. Ammonia.

Possibility of hazardous reactions Reacts with organic materials and reducing agents. On contact with strong acids, or occasionally during blasting, it produces irritating, toxic brown fumes comprising mainly Nitrogen dioxide gas.

11. Toxicological information

Acute toxicity May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Intake of large quantities may cause headaches, dizziness and reduced blood pressure (hypotension).

Components	Species	Test Results
Ammonium nitrate (CAS 6484-52-2)		
Acute		
Oral		
LD50	Rat	2217 mg/kg

Routes of exposure Eye contact. Skin contact. Inhalation. Ingestion.

Symptoms Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Skin corrosion/irritation Prolonged or repeated skin contact may cause irritation. May be absorbed through cut, broken or burnt skin.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory sensitizer No data available.

Skin sensitizer No data available.

Germ cell mutagenicity No data available.

Carcinogenicity No data available.

Toxic to reproduction No data available.

Specific target organ toxicity - single exposure May cause irritation of respiratory tract. May cause damage to organs (blood).

Specific target organ toxicity - repeated exposure No data available.

Aspiration hazard No data available.

Chronic effects No data available.

Interactive effects Not available.

Other information Absorption of nitrates by inhalation, ingestion or through the skin may cause dilation of blood vessels by direct smooth muscle relaxation and may also cause methaemoglobinaemia.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability The product is biodegradable.

Bioaccumulation Not expected to bioconcentrate or bioaccumulate.

Mobility in soil This product is water soluble and may disperse in soil.

Other hazardous effects Not available.

13. Disposal considerations

Disposal methods/information Do not allow this material to drain into sewers/water supplies.

Residual waste Dispose in accordance with all applicable regulations.

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
Local disposal regulations	Dispose in accordance with all applicable regulations.

14. Transport information

ADR

UN number	UN1942
Proper shipping name	AMMONIUM NITRATE
Hazard class	5.1
Packing group	III
Labels required	5.1

IATA

UN number	UN1942
Proper shipping name	Ammonium nitrate
Hazard class	5.1
Packing group	III
Labels required	5.1

IMDG

UN number	UN1942
Proper shipping name	AMMONIUM NITRATE
Hazard class	5.1
Packing group	III
Labels required	5.1
EmS No.	F-H, S-Q
Marine pollutant	No

15. Regulatory information

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.

16. Other information

References

Registry of Toxic Effects of Chemical Substances (RTECS)
HSDB

Issued by

Not available.

Disclaimer

This MSDS summarizes 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 representative or Orica Limited at the contact details on page 1.

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

Issue date 06-03-2012

Revision date -