




Trade name: **PENTHRITE**

Revision: 01.11.2016
Printing date: 1/15/2019

1. Product identification

1.1. Product name Penthrite/PETN/Pentaerythritol Tetranitrate
1.2. Recommended uses of the product Raw material for the manufacture of other explosives and/or pyrotechnic devices.
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 substance <ul style="list-style-type: none">Classification according to SGA - 5° Edition Physical hazards Explosives - Division 1.1 - DangerHuman and environmental-specific hazards: Substances and goods that present a risk of mass explosion.
2.2. Label elements: <ul style="list-style-type: none">Labelled according to UE norms:  Warning: HazardDanger indications: H201 Explosive; mass explosion hazard.Caution advice: P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke. P230 Keep humidified with greater than 25% humidity. P234 Keep only in the original packaging. P240 Container and receiving equipment earthing and equipotential link. P250 Avoid abrasion/shock/friction/... P280 Use gloves/protective clothing/eye and face protection.
2.3. Other hazards Non-applicable.

3. Composition/information on ingredients

3.1. Substances Chemical name: Pentaerythritol tetranitrate. Synonyms: PENTA, penthrite, PETN
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Printing date: 1/15/2019Chemical formula: $C_5H_8N_4O_{12}$
Molecular weight: 316.1 g/mol
CAS number: 78-11-5
Concentration: > 95 %**3.2. Mixtures**

Non-applicable.

4. First aid**4.1. Description of necessary first aid measures**

- **Inhalation:**
Take the person to open air and keep them at rest in a comfortable position for breathing. If impaired breathing, use artificial breathing. Seek medical advice immediately.
- **Skin contact:**
Wash with plenty of water and soap for at least 15 minutes. Take off contaminated clothes and footwear. Seek medical advice.
- **Eye contact:**
Wash with plenty of water for 15 minutes, maintaining the eyelids open. Seek medical advice.
- **Ingestion:**
Wash mouth with water. Never offer anything to eat to an unconscious person or if the person has seizures. If the person is conscious, do not induce vomiting. Seek medical care immediately.

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

The substance can affect the cardiovascular system and lower blood pressure. May produce vertigo, headache.

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

Treat symptomatically.

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

Suitable extinguishing media: do not extinguish fires. Evacuate personnel immediately. Let the fire extinguish by itself.

5.2. Substance or mixture specific hazards

Can explode when exposed to intense heating, fire or shock and/or severe friction (or electrostatic discharge when in dry condition). Do not breathe toxic gases from combustion.

5.3. Special procedures to be taken by firefighting teams

- **Protection equipment**
Do not extinguish fires. Use positive pressure self-contained breathing equipment. Firefighter equipment will provide only limited protection.
- **Additional information**
Tire or vehicle fire: use plenty of water and flood the fire. If there is no water available, use CO₂, dry chemical powder or mud. If the fire is on the charge, do not extinguish it. Evacuate immediately.

6. Procedures in case of spills

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Evacuate the area and isolate at least 500 meters. Use breathing apparatus in the event of exposure to dusts/fumes/aerosols. Ventilate closed spaces before entering. Avoid all sources of heat, flames, electrostatic discharge. Do not smoke. Avoid all kinds of shock and friction.

6.2. Precautions in relation with the environment

Do not spill in culverts, gutters or drainages.

6.3. Methods and materials for containment and cleaning of dumping

Pick up and place spilled material in suitable cardboard or plastic containers for immediate disposal. Do not smoke or initiate fire near the spill area. All the equipment used during the handling of the product must be electrically grounded. Use adequate personal protection equipment.

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

Technical measures: Use proper protective equipment.

Precautions: Protect containers from physical damage.

Recommendations on safe handling: Avoid contact with incompatible materials.

Take steps to prevent a build-up of electrostatic discharge. Keep away from flames, hot surfaces and sources of ignition. It is prohibited to eat, drink or smoke in the work areas.

7.2. Conditions for safe storage, including any incompatibilities**Requirements regarding warehouses and containers:**

Store in closed original containers until use, at room temperature and in a dry and well ventilated place. Keep away from heat, open flames and ignition sources.

Information about storage in a single warehouse:

Technical measures: the substance should be kept wet. Fire-proof. Store away from incompatible materials and substances.

Storage conditions: Do not expose to sunlight.

Incompatible products: Strong alkali or acids.

Packaging materials: Cardboard boxes and polyethylene bags.

Recommended storage temperature

No data available.

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

No national control limit values are available. Exposition should be evaluated according to applicable local rules.

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**

Reduce the number of individuals at the risk area to the minimum.

Breathing protection

Not required under normal conditions.

Protection for hands

Not required, except to avoid injuries by abrasion and to reduce contact with the skin.

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- **Material of gloves**
Neoprene, natural rubber.
- **Eye protection**
Use security glasses.
- **Protection for the body**
Use appropriate clothing.

9. Physical and chemical properties

• Appearance	
Form:	Solid
Colour:	Crystal white
• Odour:	Odourless
• Change of state	
Melting point/melting range	140°C
• Flash point:	198°C
• Ignition temperature:	Not available
• Decomposition temperature:	190°C
• Deflagration point:	202°C
• Autoflammability:	Not available
• Danger of explosion:	Yes
• Density:	0.85 – 1.00 g/cm ³
• Density at 20°C:	
Solubility in water at 20°C:	Insoluble

10. Stability and reactivity**10.1. Reactivity**

Avoid contact with oxidizing agents and strong acids.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to be avoided

Sandy impurities (highly increase sensitivity to detonation). Avoid fire, shock, friction or electrical discharge.

10.5. Incompatible materials

Strong alkali or acids.

10.6. Dangerous decomposition products

Gaseous nitrogen oxides and carbon oxides in case of fire.

11. Toxicological information

- **Acute toxicity:**
No data available.



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<ul style="list-style-type: none">• Primary irritating effects: On the skin: Non-irritating. On the eyes: Non-irritating.
<ul style="list-style-type: none">• Sensitization: No data available.
<ul style="list-style-type: none">• Additional toxicological information: Non-applicable.
<ul style="list-style-type: none">• Information about possible routes of exposure The substance can be absorbed by inhalation and ingestion.
<ul style="list-style-type: none">• Symptoms related to the physical, chemical and toxicological characteristics The substance can affect the cardiovascular system and lower blood pressure. May produce vertigo, headache.

12. Ecotoxicological information

12.1. Toxicity Aquatic toxicity: Toxicity for other daphnias: CE ₅₀ (Daphnia magna) 48 hs: 49 mg/L.
12.2. Persistence and degradability: Not available.
12.3. Bioaccumulative potential: Not available.
12.4. Mobility in soil: Not available.
12.5. Results of PBT and vPvB assessment: Not available.
12.6. Other adverse effects: Not available.


13. Disposal considerations

13.1. Methods of waste treatment. <ul style="list-style-type: none">• Recommendations: Dispose material according to local or state regulations, under the direct supervision of qualified personnel. Call Austin Powder for recommendations and assistance. This product can be hazardous under certain conditions and it must be picked, tagged and disposed immediately.
<ul style="list-style-type: none">• Packaging without cleaning: Recommendations: Incineration.



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14. Information on transport	
14.1. UN number	
• ADR, IMDG, IATA:	0150
14.2. UN shipping name	
• ADR:	PENTAERYTHRITOL TETRANITRATE, HUMIDIFIED
• MERCOSUR:	PENTAERYTHRITOL TETRANITRATE, HUMIDIFIED
• IMDG:	PENTAERYTHRITOL TETRANITRATE; HUMIDIFIED
• IATA:	PENTAERYTHRITOL TETRANITRATE, HUMIDIFIED
14.3. Transport hazard class	
• ADR:	
Class:	1.1 D
Tunnel restriction code:	1 (B1000C)
• IMDG:	
Class:	1.1 D
• IATA:	
Class:	1.1 D
Observations:	Prohibited
14.4. Packing group	
Label:	
14.5. Risk label	
• ADR, IMDG:	Non-applicable
14.6. Environmental risk	
• Sea contaminant:	No
14.7. Special precautions for use	
• Warning:	Do not transport with incompatible materials. Do not use flammable materials for stowage of packages. Do not transport with live animals.
• Danger code (Kemler):	No n-applicable
• EMS number:	F-B, S-Y
14.8. Code of bulk transport according to ANNEX II of MARPOL73/78 and IBC	Not listed

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

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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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