

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1 Product identifier

Chemical name: Benzene o-dicarboxylic anhydride; 1,2-benzenedicarboxylic anhydride

Synonyms: PA, PAN

Commercial name: Phthalic anhydride flakes

Structural formula: C<sub>8</sub>H<sub>4</sub>O<sub>3</sub>

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended use: Commonly used in the production of phthalic plasticizers, alkyd resins and polyester resins. Also used in PCV stabilizers,

1.3 Details of the supplier of the safety data sheet

Supplier: Varteco Química Puntana S.A

Address: Ruta 11 Km 25 – San Lorenzo – Prov. Santa Fe

Emergency telephone number: +54-3476-422007 (8:30 am – 5:30 pm M-F)  
+54-2664 425379 (24 hours)

**SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture

Classification according to Directives 67/548/EEC:

Properties/Symbols: C (Corrosive)

Hazard statement: X<sub>n</sub>; R: 22

X<sub>i</sub>; R37/38-41

2.2 Classification elements

Pictogram	Signal word	Indication of danger	Advice on precaution
	Danger	H302 H315 H317 H318 H334 H335	P261 P264 P270 P271 P272 P280 P301+P312 P302+P352 P304+P340 P305+P351+P338 P362 P363 P403 P405 P501

2.3 Other hazards: No other hazard

\*For the meaning of all the hazard information (H), see section 16

**EMERGENCY OVERVIEW:** Corrosive dust that can cause irritation or burns on skin and eyes. If inhaled, the dust can cause chest tightness and pain, cough and difficulty breathing.

**Acute toxicity:**

Eye contact: The dust or vapor cause conjunctival irritation

Skin contact: It can cause irritation and if it stays in contact with the skin, it can cause burns. Irritation effects worsen on wet and hot surfaces. It can cause sensitization

Inhalation: Respiratory tract irritant. It may cause difficulty breathing and asthma-like symptoms, possibly leading to pulmonary edema.

Ingestion: Harmful if swallowed. It causes gastrointestinal irritation

**Chronic toxicity:** long-term exposure can cause allergic skin reactions, chronic irritation and asthma. It may cause bronchitis or asthma

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**Lethal concentration - LC<sub>50</sub>:** N/A

**Lethal dose - LD<sub>50</sub> (oral/rat):** 4,020 mg/Kg

**Observation:** The product is not listed as **CARCINOGEN** (according to I.A.R.C.; N.T.P.; O.S.H.A.; ACGIH)

### SECTION 3: Composition / Information on ingredients

#### 3.1. Substances

Product	CAS #	% (p/p)	Exposure limits
Phthalic anhydride	<b>85-44-9</b>	> 99.8%	6 mg/m <sup>3</sup> TWA.
Maleic anhydride	<b>108-31-6</b>	< 0.05%	-----

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### IT IS ESSENTIAL TO SEEK MEDICAL ASSISTANCE IMMEDIATELY

4.1	<b>General</b>	Remove contaminated clothes
	<b>Inhalation</b>	Move victim to fresh air. If necessary, administer medical oxygen. Obtain immediate medical assistance
	<b>Ingestion</b>	DO NOT INDUCE VOMITING. If the patient is conscious, rinse their mouth with large amounts of water and give them 300 milliliters of potable water to drink. Seek immediate medical assistance.
	<b>Skin</b>	Wash with abundant water and soap. Remove leather objects, shoes and contaminated clothing under running water. Seek immediate medical assistance.
	<b>Eyes</b>	Immediately rinse eyes carefully with ophthalmic solution or water until the physician arrives. Obtain assistance
4.2		<b>Symptoms and effects in the event of chronic exposure</b>
		There are no known long-term effects, especially since short-term harmful effects prevent prolonged exposure
4.3	<b>Medical assistance</b>	Treat according to symptoms (decontamination, vital functions), there is no specific known antidote

### SECTION 5: Firefighting measures

5.1	<b>Extinguishing media</b>	Combustible if heated. Use dry powder. Carbon dioxide. Alcohol-resistant foam. Water mist to cool the material below its melting point. Do not use water stream.
	<b>Inadequate extinguishing media</b>	Unknown
5.2	<b>Special hazards</b>	Special chemistry hazards: Vapor and dust from the product can produce explosive mixtures with air.
	<b>Hazardous combustion products</b>	
5.3	<b>Advice for firefighters</b>	
	<b>Personal protective equipment</b>	Wear proper protective clothing (chemical protective clothing), use self-contained breathing apparatus.

### SECTION 6: Accidental release measures

6.1	<b>Personal precautions</b>	Keep the material away from water sources and sewage systems. Enclose the spilled material and cover it with plastic to allow its recovery
6.2	<b>Environmental precautions</b>	Try to recover as much spilled material as possible. If this is not possible, dig a ditch and cover the remaining material.
6.3	<b>Storage and cleaning methods and material</b>	Store the material in covered cylinders
6.4	<b>Reference to other sections</b>	Refer to section 8 to select the personal protective equipment and section 13 for waste treatment methods.

**SECTION 7: Handling and storage**

7.1	<b>Precautions for safe handling</b>	Avoid inhaling and contact with skin and eyes. Do not handle near incompatible materials. Wash hands thoroughly after handling. Do not eat, drink or smoke during the use of this product. Wash hands before eating, drinking, smoking or going to the bathroom. Remove contaminated clothing and wash it before wearing it again.
7.2	<b>Conditions for safe storage, including incompatibilities</b>	Keep only in original container, in a cool, dry, well-ventilated place away from direct sunlight and heat and ignition sources. Keep away from food. Keep away from children. Avoid static grounding. It must be stored in a covered signalized area, well ventilated and sheltered from sunlight. Keep proper fire extinguishers and equipment to clean spills near the storage area. Incompatible with alkaline and oxidizing materials, and strong acids.
7.3	<b>Specifications and uses</b>	See section 1.2

**SECTION 8: Exposure controls/personal protection**

**Engineering controls:**

The best protection is to enclose operations and/or provide local aspiration. Provide extraction ventilation where chemical emissions occur to keep vapor concentrations below their respective threshold limit value. A safety shower and eyewash station are recommended.

**Exposure limits**

Chemical name	ACGIH	NIOSH	OSHA – Final PEL
Phthalic anhydride	1 ppm	1 ppm	2 ppm

**Personal protective equipment**

**Eyes:** Wear proper protective eyewear

**Skin:** Wear proper protective gloves to prevent exposure to the skin

**Clothing:** Wear proper protective clothing to avoid exposure to the skin

**Respiratory protection:** Wear full-face mask for organic vapors. In the event of potential exposure, wear full-face breathing mask, with air supply, operated in positive pressure mode. Do not eat, drink or smoke while using this product. Wash hands before eating, drinking, smoking or going to the bathroom. Remove contaminated clothing and wash it before wearing it again.

**SECTION 9: Physical and chemical properties**

Appearance:	White crystals with suffocating odor
Color:	White
Smell:	Irritant
Molecular weight:	148.1156
pH:	Acid
Melting point:	130.8 – 131.4°C
Boiling point:	284°C
Flash point:	152°C (closed cup) 165°C (open cup)
Autoignition temperature:	584°C
Decomposition temperature:	Not available
Lower flammable limit (explosive)	1.7% v/v
Upper flammable limit (explosive)	10.5% v/v
Oxidizing properties	Not available
Density	1.527 g/cm <sup>3</sup> at 20°C
Vapor pressure:	N/A
Vapor density: (air=1):	5.1
Viscosity 25°C	52 Cp
Critical temperature	537°C
Critical pressure	47.6 bar

**SECTION 10: Stability and reactivity**

10.1	<b>Reactivity</b>	Stable under normal conditions
10.2	<b>Chemical stability</b>	Stable
10.3	<b>Possibility of hazardous reactions</b>	Unknown
10.4	<b>Conditions that should be avoided</b>	Heat, flame and other sources of ignition. Humidity
10.5	<b>Incompatible materials</b>	Strong bases, nitric acid, strong oxidizing agents, water, alkalis.
10.6	<b>Hazardous decomposition products</b>	When burning, it releases toxic gases and vapors (phthalic acid fumes, carbon monoxide). Phthalic anhydride has a very slow reaction and is not hazardous; through hydrolysis, it forms phthalic acid, which is corrosive
10.7	<b>Hazardous polymerization</b>	Will not occur

**SECTION 11: Toxicological information**

11.1	<b>Routes of entry</b>	Absorbed through the skin. Eye contact
11.2	<b>Toxicity to animals</b>	Acute oral toxicity (DL50): 3,000 mg/kg. Acute dermal toxicity (DL50) 25,000 mg/Kg (rabbit)
11.3	<b>Chronic effects on humans</b>	
11.4	<b>Other toxic effects on human beings</b>	Slightly hazardous in the event of skin contact (irritant), ingestion and inhalation
11.5	<b>Special observations on toxicity to animals</b>	Not available
11.6	<b>Special observations on other chronic effects on human beings</b>	It can cause adverse effects on the reproductive system and birth defects (teratogenic) It can affect genetic material (mutagenic) It can cause cancer based on animal testing data
11.7	<b>Special observations on other toxic effects on human beings</b>	<b>Potential adverse effects on health:</b>  <b>Skin:</b> It can cause mild skin irritation. It is not easily absorbed through human skin. <b>Eyes:</b> It can cause mild eye irritation <b>Inhalation:</b> In significant concentrations, it can cause irritation to the upper respiratory tract (nose and throat) and the mucous membrane. <b>Ingestion:</b> It is considered innocuous in small doses. Low risk for normal industrial handling. It can cause irritation to the gastric and digestive tract with minor discomforts, and diarrhea may occur after swallowing higher doses. Depression of the CNS may occur if a great number of phthalate esters are absorbed Potential chronic effects on health: ingestion. Repeated or prolonged ingestion can affect the liver

**SECTION 12: Eco-toxicological information**

**Ecotoxicity:** The product can cause damage to the environment due to low pH.

**Persistence:** This product is expected to have a low and fast degradability

**Biodegradation products:** Long-term degradation products are unlikely, although they may arise

**Environment:** The corrosive nature of the product determines its action on the soil, water and animals.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Final disposition is recommended in a specially designed facility. It is recommended to wash with abundant water and then neutralize water with a weak base

**SECTION 14: Transport information**

VQPSA's phthalic anhydride is not classified as a hazardous product since it contains a maleic anhydride concentration lower than 0.05%

Regulatory requirements

**Ground transportation (Act number 24.449 Res. 195/97 and Mercosur Agreement)**

- Name of the hazardous product, for transportation: Not listed as hazardous product (it contains less than 0.05% of maleic anhydride).
- Intervention sheets.
- Caution signs and hazard labeling.

**Maritime transportation (international IMO code)**

- Name of the hazardous product, for transportation: Not listed as hazardous product (it contains less than 0.05% of maleic anhydride).
- Hazard label
- Caution sign

**SECTION 15: Regulatory information**

OSHA: None of the chemicals in this product is considered highly hazardous by OSHA

**SECTION 16: Other information**

Hazards	Advice on precaution			
	Prevention	Intervention	Storage	Disposal
<b>H302</b> Harmful if swallowed <b>H315</b> Causes skin irritation <b>H317</b> May cause an allergic skin reaction <b>H318</b> Causes serious eye damage <b>H334</b> May cause allergy or asthma symptoms or breathing difficulties if inhaled <b>H335</b> May cause respiratory irritation	<b>P261</b> Avoid breathing dust/fume/gas/mist/vapours/sp ray <b>P264</b> Wash...thoroughly after handling <b>P270</b> Do not eat, drink or smoke when using this product <b>P271</b> Use only outdoors or in a well-ventilated area <b>P272</b> Contaminated work clothing should not be allowed out of the workplace <b>P280</b> Wear protective gloves/protective clothing/eye protection/face protection	<b>P308+313</b> In case of exposure, call a physician <b>P301+P312</b> IF SWALLOWED: Call a poison center or physician if the person is unwell <b>P302+P352</b> IF ON SKIN: Wash with abundant water <b>P304+P340</b> IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing <b>P305+P351+P338</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do	<b>P403</b> Store in a well-ventilated place <b>P405</b> Store locked up	<b>P501</b> Dispose of contents/container in accordance with national/local/federal regulations

**Note:** This safety sheet and the information provided in it are correct to the best of our knowledge. All the information in this sheet, which has been received from outside sources, has been reviewed, and we believe that it is correct, but we do not guarantee it is exact or complete, and we do not offer any explicit or implied warranties. Health and safety precautions on this sheet may not be adequate for all individuals and/or situations. It is the user's obligation to assess and use this product safely and to comply with all applicable laws and regulations