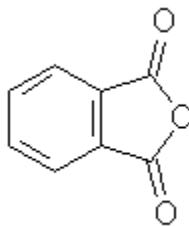


1. General Statements

Phthalic anhydride is a solid with needle-like crystals, colorless to white in appearance, and emits an aromatic odor. It is chemically characterized as combustible but poorly flammable, soluble in water, and sensitive to moisture due to hydrolysis. The substance poses potential acute and chronic health hazards upon exposure, indicating the need for careful handling, proper storage in dry conditions, and appropriate safety measures to minimize health risks.

2. Chemical identification.

Name : Phthalic anhydride
CAS number(s) : 85-44-9
EC number : 201-607-5
Molecular formula : C₈H₄O₃
Structure :



3. Uses and Benefits

It is mainly used to produce phthalate esters, which are plasticizers added to plastics (especially PVC) to increase flexibility, durability, and workability. It serves as a precursor in the synthesis of certain dyes and pigments. It can be used to produce other chemicals such as herbicides and insecticides.

4. Physical / chemical properties

Property	Value
Physical state :	Solid
Colour :	Colourless
Odour :	Aromatic.
pH :	NA
Melting point :	131.6 °C at 101 325 Pa
Boiling point :	284.5 °C at 101 325 Pa
Flash point :	152°C (closed cup)
Density :	1.53 g/cm ³ at temp: 20°C
Solubility in Water:	Water: 6000 mg/l

5. Health Effects

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Effect Assessment	Result
Acute toxicity (Oral / inhalation / dermal)	Harmful if swallowed or if inhaled
Irritation / corrosion Skin / eye/ respiratory tract	Causes skin irritation,Causes serious eye damage
Respiratory or skin sensitisation	May cause an allergic skin reaction,May cause respiratory irritation
Toxicity after repeated exposure Oral / inhalation / dermal	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Genotoxicity / Mutagenicity	NA
Carcinogenicity	NA
Toxicity for reproduction	NA

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	No
Fate and behavior	Result
Persistence and degradability	Not rapidly degradable
Bioaccumulative potential	No additional information available

7. Exposure

Human health

Phthalic anhydride is The substance described poses multiple health hazards. It can be harmful if swallowed or inhaled, causing irritation to the skin, eyes, and respiratory system. Additionally, it may trigger allergic reactions, including skin allergies and asthma symptoms, upon contact or inhalation. Proper handling, use of personal protective equipment (PPE), and adequate ventilation are essential to minimize exposure and prevent health risks. Immediate medical attention is recommended if exposure occurs.The exposure must be kept as minimum as possible by the use of appropriate risk management measures suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.Careless handling or accidental spillage of the chemical could result in exposure to potential hazardous levels of chemicals.Industrial workers should ensure that they follow the advice found in the extended safety data sheet (SDS).

Environment:

Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

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8. Risk Management Recommendations

Human health measures.

Organizational	A basic standard of occupational hygiene is recommended. Ensure operatives are well informed of the hazards and trained to minimise exposures. Ensure regular inspection and maintenance of equipment and machines. Handle and store according to the indications of the Safety Data Sheet.	
Protection	Eye protection:	Safety glasses
	Skin and body protection:	Wear suitable protective clothing
	Respiratory protection:	[In case of inadequate ventilation] wear respiratory protection.
Engineering controls	Ensure good ventilation of the work station..	
Environment protective measures		
Avoid release to the environment		

9. First-aid measures

First-aid measures after inhalation :Remove the person to fresh air and keep them comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs:Get medical advice/attention

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

Unsuitable extinguishing media :Do not use a heavy water stream.

Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be release

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

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Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

11. Accidental release measures

Protective equipment : safety goggles. protective gloves. Wear self-contained breathing apparatus and special tightly sealed suit.

Environmental precautions : Avoid release to the environment.

For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.

12. Disposal consideration

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

13. Handling and storage

Precautions for safe handling : Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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14. Classification and Labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H302+H332 - Harmful if swallowed or if inhaled

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 - May cause respiratory irritation

Precautionary statements (GHS US)

: P261 - Avoid breathing dust, fume, gas, mist, vapors, spray.

P264 - Wash hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P280 - Wear protective gloves.

P284 - Wear respiratory protection.

P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.

P302+P352 - If on skin: Wash with plenty of water.

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a poison center or doctor.

P312 - Call a poison center or doctor if you feel unwell.

P321 - Specific treatment (see supplemental first aid instruction on this label).

P330 - Rinse mouth.

P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.

P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.

P362+P364 - Take off contaminated clothing and wash it before reuse.

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

P405 - Store locked up.

P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

15. Conclusion

Phthalic anhydride is an important industrial chemical primarily used in the production of plasticizers, dyes, and other chemical intermediates. It appears as a colorless to white solid with an aromatic odor and possesses specific physical and chemical properties that require careful handling. Due to its potential to cause skin and respiratory irritation, allergic reactions, and acute toxicity if ingested or inhaled, strict safety—including proper personal protective equipment, adequate ventilation, and training—are essential to minimize health risks. Additionally, environmental precautions must be observed to prevent contamination. Proper storage, handling, and emergency response protocols ensure safe use of phthalic anhydride in industrial and laboratory settings.

16. Contact Information within company

Manufacturer

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This GPS safety summary is intended to give general information about the health, safety and environment and not intended to provide in-depth details. To obtain the most accurate and current information, consult the appropriate Safety Data Sheet (SDS) prior to use of the material named herein.