

Phthalic Anhydride

Safety Data Sheet

according to UK REACH/ according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 2015/830

Issue date: 15/07/2024 Version: 1.0

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

1.1. Product identifier

Product form	: Substance
Trade name	: Phthalic Anhydride
Chemical name	: Phthalic acid anhydride
EC Index-No.	: 607-009-00-4
EC-No.	: 201-607-5
CAS-No.	: 85-44-9
REACH registration No.	: 01-2119457017-41-0021
Formula	: C8H4O3

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

Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Production of Substance. Use as an Intermediate. Use as a Monomer for Polymer Formation. Use in Formulation, Mixture, Refilling and Loading. Use as a Laboratory Chemical.
Use of the substance/mixture	: Intermediates

Uses advised against

Restrictions on use	: Anything other than the above, Uses other than those recommended
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1.3. Details of the supplier of the safety data sheet

Manufacturer

GADIV PETROCHEMICAL INDUSTRIES LTD
P.O. Box 4
3100001 Haifa
Israel
T +972-4-8788020, F +972-4-8788018
Gadiv@bazan.co.il, www.bazan.co.il

1.4. Emergency telephone number

Emergency number	: +972-4-8788512; Environment Incident Notification center 24-HOUR: *5799
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4	H302
Specific target organ toxicity – Single exposure, Category 3,	H335
Respiratory tract irritation	
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Respiratory sensitisation, Category 1	H334
Skin sensitisation, Category 1	H317
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

Hazard statements (CLP)

Precautionary statements (CLP)

- : Danger
- : H302 - Harmful if swallowed.
H335 - May cause respiratory irritation.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 - May cause an allergic skin reaction.
- : P261 - Avoid breathing dust.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P301+P312 - IF SWALLOWED: Call doctor if you feel unwell.
P302+P352 - If on skin: Wash with plenty of soap and 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/doctor.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call doctor, a POISON CENTER.
P362+P364 - Take off contaminated clothing and wash before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, national regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Phthalic Anhydride
CAS-No. : 85-44-9
EC-No. : 201-607-5
EC Index-No. : 607-009-00-4

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
phthalic anhydride	CAS-No.: 85-44-9 EC-No.: 201-607-5 EC Index-No.: 607-009-00-4 REACH-no: 01-2119457017-41-0021	< 100	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317

Full text of H- and EUH-statements: see section 16

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label).
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide.
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5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protective equipment for firefighters	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust, fume. Use only outdoors or in a well-ventilated area.

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

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

phthalic anhydride (85-44-9)	
United Kingdom - Occupational Exposure Limits	
Local name	Phthalic anhydride
WEL TWA (OEL TWA)	4 mg/m ³
WEL STEL (OEL STEL)	12 mg/m ³
WEL chemical category	Capable of causing occupational asthma
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

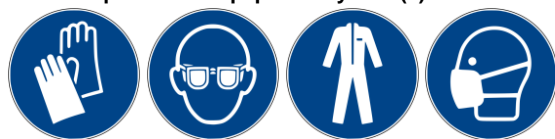
8.2. Exposure controls

Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



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Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Wear eye glasses with side protection according to EN 166.

Skin protection

Skin and body protection:

Wear suitable protective clothing. Avoid repeated or prolonged skin contact. If repeated skin contact or contamination of clothing is likely, protective clothing should be worn

Hand protection:

In case of repeated or prolonged contact wear gloves. Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Neoprene gloves are recommended with breakthrough time of approx. 25 minutes according to ISO 374-1 (0.1 mm thickness); changing gloves after 20 minutes is recommended.

Respiratory protection

Respiratory protection:

Wear a mask. In case of inadequate ventilation wear respiratory protection. Dust production: dust mask with filter type P2. Wear a respirator conforming to EN140 with Type A/P2 filter or better

Environmental exposure controls

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: White.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: 131,6 °C
Freezing point	: Not available
Boiling point	: 284 °C at 1013 hPa
Flammability	: Non flammable.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: 152 °C
Auto-ignition temperature	: 580 °C
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: 1,19 mPa·s at 132°C , 1.125 mPa*s at 155°C
Solubility	: Water: 6000 – 16400 mg/l (substance is hydrolytically unstable at pH 4, 7 and 9).
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 1,6 at 20°C
Vapour pressure	: 0,0006 hPa at 26.6°C
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: 1,527 g/cm ³ at 20°C
Relative vapour density at 20°C	: Not applicable (solid material)
Particle size	: Not available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat sources. Sparks. flames. Ignition sources.

10.5. Incompatible materials

Strong acids. Strong bases. Water, humidity. Alcohols. Oxidising agents. Nitrites. Metallic oxides.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

phthalic anhydride (85-44-9)	
LD50 oral rat	1530 mg/kg bodyweight Animal: rat, Animal sex: male
LD50 oral	800 mg/kg
LD50 dermal rabbit	> 10 g/kg (Source: NLM_CIP)
LD50 dermal	10000 mg/kg
LC50 Inhalation - Rat	> 2,14 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 2,14 mg/l Source: ECHA
ATE CLP (oral)	500 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Additional information : Based on available data, the classification criteria are not met
Carcinogenicity : Not classified
Additional information : Based on available data, the classification criteria are not met

phthalic anhydride (85-44-9)	
NOAEL (chronic, oral, animal/male, 2 years)	3570 mg/kg bodyweight Animal: mouse, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1785 mg/kg bodyweight Animal: mouse, Animal sex: female

Reproductive toxicity : Not classified
Additional information : Based on available data, the classification criteria are not met
STOT-single exposure : May cause respiratory irritation.

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phthalic anhydride (85-44-9)

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

phthalic anhydride (85-44-9)

NOAEL (oral, rat, 90 days)	500 mg/kg bodyweight Animal: rat
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : No additional information available

Other information

Potential Adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

phthalic anhydride (85-44-9)

LC50 - Fish [1]	> 99 mg/l Source: ECHA
EC50 - Crustacea [1]	> 640 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	> 640 mg/l Test organisms (species):
EC50 72h - Algae [1]	68 mg/l Source: ECHA
NOEC (chronic)	16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	10 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '60 d'
NOEC chronic crustacea	16 mg/l
NOEC chronic algae	32 mg/l

12.2. Persistence and degradability

Phthalic Anhydride (85-44-9)

Persistence and degradability	Not established.
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phthalic anhydride (85-44-9)

Persistence and degradability	Rapidly degradable
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12.3. Bioaccumulative potential

Phthalic Anhydride (85-44-9)

Partition coefficient n-octanol/water (Log Pow)	1,6 at 20°C
Bioaccumulative potential	Not established.

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phthalic anhydride (85-44-9)

BCF - Fish [1]	(3169 dimensionless)
Partition coefficient n-octanol/water (Log Pow)	1,6

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : No information available.

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, national regulation.

Ecological waste information : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

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Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Sources of Key data : Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens). ECHA (European Chemicals Agency). GB CLP. CLP Inventory. Supplier information. Manufacturer Information.

Other information : None.

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
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Full text of H- and EUH-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed.
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.
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.