

SAFETY DATA SHEET

Maleic anhydride Pastilles

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

Date of revision : 2023-01-16

Version : 1

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

1.1. Product identifier

Product name : Maleic anhydride Pastilles
Chemical name : Maleic anhydride
EC number : 203-571-6
CAS number : 108-31-6
INCI Name : Not available/not applicable
REACH Registration number : 01-2119472428-31
Other means of identification : 2,5-dihydrofuran-2,5-dione; Maleic Acid Anhydride
Chemical formula : C₄H₂O₃

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

Identified uses : Initial product for chemical reactions, Industrial use.
At the moment we have no information available for the identified uses.
In the presence of these data will be included in the safety data sheet.
Uses advised against : There are no uses have been identified, advised against.

1.3. Details of the supplier of the safety data sheet

Name : GLI-THERM Sp. z o.o.
Address : st. Rozwojowa 11, 44-338 Jastrzębie-Zdrój Poland
Regon : 242850136
NIP/Tax No : 6423178990
Telephone : +48 733 525 533
E-mail : sandra.stachowicz@gli therm.eu
Website address : www.gli therm.eu

1.4. Emergency telephone number

National advisory body/Poison Center:

Ireland : National Poisons Information Centre
Emergency number:
+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166
(public, 8am - 10pm, 7/7)

United Kingdom : National Poisons Information Service (Newcastle Centre)
Emergency number:
0844 892 0111 (UK only, 24/7, healthcare professionals only)

Poland	:	Szpital Praski p.w. Przemienienia Pańskiego Sp. z o.o. Emergency number: +48 22 619 66 54 +48 22 619 08 97
Germany	:	Vergiftungs-Informationen-Zentrale Freiburg Emergency number: +49 (0) 761 19240
24 Hour Emergency Telephone	:	+(44)-8708200418 CHEMTREC
Supplier		
Telephone number	:	+48 733 525 533

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4	:	H302
Skin Corr. 1B	:	H314
Resp. Sens. 1	:	H334
Skin Sens. 1A	:	H317
Eye Dam. 1	:	H318
STOT RE 1	:	H372

2.2. Label elements

Hazard pictograms



Signal word

:

DANGER

Hazard statements

:

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

- Prevention** : **P260** Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
- Response** : **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.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
- Hazardous component(s) to be indicated on label** : contains maleic anhydride
- Further supplemental information** : Restricted to professional users

2.3. Other hazards

- Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : The product contains no PBT substances.
- Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : The product contains no vPvB substances.
- Other hazards which do not result in classification** : This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.1. Substance

Mono-constituent substance

Substance	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP/GHS]	Type
Maleic anhydride	CAS No. 108-31-6 EINECS no. 203-571-6 Registration no. 01-2119472428-31	>100	Skin Sens. 1A H317 Resp. Sens. 1 H334 Acute Tox. 4 H302 Skin Corr. 1B H314 Eye Dam. 1 H318 STOT RE 1 H372 ATE oral 1.090 mg/kg	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type:

[A] Constituent

[B] Impurity

[C] Stabilizing additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General information** : If the patient is likely to become unconscious, place and transport in stable sideways position. Remove soiled or soaked clothing immediately, do not allow to dry. Poisonous symptoms can first be observed after several hours, therefore medical observation for at least 48 hours is necessary. In case of breathing difficulties, give oxygen.
- Eye contact** : Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.
- Inhalation** : Ensure supply of fresh air. Take medical treatment.
- Skin contact** : Wash off immediately with soap and water. Consult a doctor if skin irritation persists.
- Ingestion** : Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Never give anything by mouth to an unconscious person. Take medical treatment.

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

Inhalation may lead to irritation of the respiratory tract. Causes burns. Causes serious eye irritation. Allergic symptoms

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

- Notes to physician** : Treat symptomatically
- Specific treatments** : Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media** : Alcohol-resistant foam, Dry chemical extinguisher, Carbon dioxide, Water spray jet, Water mist.
- Unsuitable extinguishing media** : Full water jet

5.2. Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In case of fires, hazardous combustion gases are formed; Carbon monoxide (CO); Carbon dioxide (CO₂)

5.3 Advice for firefighters

- Special precautions for fire-fighters** : Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Cool endangered containers with water spray jet.
- Special protective equipment for fire-fighters** : Use self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Keep unprotected persons away. Keep away sources of ignition. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil.

6.3. Methods and materials for containment and cleaning up

Pick up mechanically. Rinse away rest with water. Avoid raising dust. Neutralization agent use. When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

See Section 1 for emergency contact information.

See Section 7 for information on safe handling.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1. Precautions for safe handling

Protective measures : Observe the usual precautions for handling chemicals. Avoid dust formation. Provide good ventilation of working area (local exhaust ventilation if necessary).

Advice on protection against fire and explosion : Keep away from sources of heat and ignition.

7.2. Conditions for safe storage, including any incompatibilities.

Requirements for storage rooms and tanks : Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight. Protect from atmospheric moisture and water. -Sensitive to frost-

Information on joint storage : Do not store together with foodstuffs. Acids, Alkalis, Oxidising agents

Other information on storage conditions : Storage class according to TRGS 510 6.1C Combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

7.3. Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance.

8.1. Control parameters

Derived No/Minimal Effect Levels (DNEL/DMEL)

Worker short term inhalative 0.8 mg/m³

Worker long term inhalative 0.4 mg/m³

Predicted No Effect Concentration (PNEC)

Type of value	Type	Concentration
PNEC	Freshwater	0,04281 mg/m ³
PNEC	Saltwater	0,004281 mg/m ³
PNEC	periodic release	0,4281 mg/l
PNEC	Freshwater sediment	0,334 mg/kg TG
PNEC	Marine sediment	0,0334 mg/kg TG
PNEC	Soil	0,0415 mg/kg TG

8.2. Exposure controls

- General protective and hygiene measures** : Take off immediately all contaminated clothing. Avoid contact with skin and eyes. Keep separated from food-stuffs and feed-stocks. At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work.
- Eye/face protection** : Tightly fitting safety glasses
- Hand protection** : Appropriate Material Chloroprene
Material thickness \geq 0,6 mm
Breakthrough time \geq 480 min
- Body protection** : Clothing as usual in the chemical industry.
- Respiratory protection** : If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	solid
Color	:	whitish
Odor	:	characteristic
Odor threshold	:	No data available
pH	:	No data available
Initial boiling point and boiling range	:	202 °C
Melting point/freezing point	:	52,4 °C
Flash point	:	103 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Lower explosion limit	:	1,4 %(V)
Upper explosion limit	:	7,1 %(V)
Vapor pressure	:	0,2 hPa @ 20 °C
Vapor density	:	No data available
Density	:	1,48 g/cm ³
Solubility in water at 20 °C (g/l)	:	788 g/l
Partition coefficient: n-octanol/water	:	p _{OW} -2,61 @ 20 °C
Auto-ignition temperature	:	475 °C
Decomposition temperature	:	No decomposition if used as prescribed.
Viscosity	:	No data available

9.2. Other information

Oxidizing properties	:	No data available
Bulk density	:	650 kg/m ³

SECTION 10: Stability and reactivity

10.1. Reactivity

Under normal conditions of storage and use, hazardous reactions will not occur.

10.2. Chemical stability

Under normal conditions of storage and use is the product stable.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Sensitive to moisture.

10.5. Incompatible materials

Acids, Alkalis, Oxidising agents, Reactions with alcohols. Amines, alkali metals, alkaline earth metals

10.6 Hazardous decomposition products

In case of combustion evolution of dangerous gases possible. Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Oral : LD50 1090 mg/kg (Rat) OECD 401

Skin : LD50 2620 mg/kg (Rat)

Inhalative : LC50 > 4.35 mg/l 1h (Mouse)

Skin corrosion/irritation : evaluation strongly corrosive
Corrosive action on the skin and mucous membrane.

Serious eye damage/eye irritation : evaluation strongly corrosive
Risk of serious damage to eyes.

Respiratory or skin sensitisation :

Germ cell mutagenicity : No information available.

Carcinogenic : Indications of possible carcinogenic effects are not available.

Reproductive toxicity : No information available.

Specific target organ toxicity - repeated exposure : May cause damage to organs.
Route of exposure inhalative

Aspiration hazard : No information available.

11.2 Information on other hazards

Endocrine disrupting properties with respect to the environment : The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

Other information : No additional information.

SECTION 12: Ecological information

12.1. Toxicity

Product/ingredient name	Result	Species	Exposure
maleic anhydride	LC50 75 mg/l	rainbow trout (Oncorhynchus mykiss)	96 h
	EC50 42,81 mg/l (OECD 202)	Daphnia magna	48 h
	NOEC 10 mg/l	Daphnia magna	21 d
	EC50 74,32 mg/l (OECD 201)	Pseudokirchneriella subcapitata	72 h

12.2 Persistence and degradability

readily degradable

12.3 Bioaccumulative potential

General information : Bioaccumulation is unlikely.

**Partition coefficient:
n-octanol/water** : p_{OW} -2,61 Temperature 20 °C

12.4 Mobility in soil

**Soil/water partition coefficient
(KOC)** : No information available.

Mobility : No information available.

12.5 Results of PBT and vPvB assessment

PBT : The Substance do not meets PBT-criteria.

vPvB : The Substance do not meets vPvB-criteria.

12.6 Endocrine disrupting properties

**Endocrine disrupting properties
with respect to the environment** : The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7 Other adverse effects

**Behaviour in environment
compartments** : No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Disposal recommendations for the product** : Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.
Do not allow to enter drains or water courses.
- Disposal recommendations for packaging** : Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1. UN Number	2215	2215	2215
14.2. UN Proper Shipping Name	MALEIC ANHYDRIDE	MALEIC ANHYDRIDE	MALEIC ANHYDRIDE
14.3. Transport Hazard Class(es)	8	8	8
14.4. Packing Group	III	III	III
14.5. Environmental Hazards	-	-	-
14.6. Special Precautions for users	No information available.	No information available.	No information available.

14.7 Transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

VOC-Content according to directive 2010/75/EU

VOC (EU) 0 %

Other regulations, restrictions and prohibition regulations

Observe employment restrictions for young people.

Observe employment restrictions for child bearing mothers and nursing mothers.

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

Registration status

IECSC (China) listed or meets the requirements

TSCA (USA) listed or meets the requirements

NZIOOC(New Zealand) listed or meets the requirements

ENCS (Japan) listed or meets the requirements

ECL (Korea) listed or meets the requirements

PICCS (Philippines) listed or meets the requirements
AICS (Australian Inventory of Chemical Substances) listed or meets the requirements
DSL (Canada) listed or meets the requirements
TCSI (Taiwan chemical substance inventory) listed or meets the requirements

15.2 Chemical Safety Assessment:

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

The data is confirmed based on the state of our knowledge, but does not determine how the production properties and cannot be used to justify legally binding contracts.

Abbreviations; acronyms and full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H290	:	May be corrosive to metals.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H341	:	Suspected of causing genetic defects.
H350i	:	May cause cancer by inhalation.
H360D	:	May damage the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.
Acute Tox. 4	:	Acute toxicity, Category 4
Eye Irrit. 2, H319	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Resp. Sens. 1	:	Respiratory sensitization, Category 1
Aquatic Chronic 3, H412	:	AQUATIC HAZARD (LONG-TERM) - Category 3
Eye Dam. 1, H318	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Skin Irrit. 2, H315	:	SKIN CORROSION/IRRITATION - Category 2
Skin Corr. 1B	:	Skin corrosion, Category 1B
Skin Sens. 1A	:	Skin sensitization, Category 1A
STOT RE 1	:	Specific target organ toxicity - repeated exposure, Category 1
NDS	:	The highest acceptable concentration
NDSh	:	Highest Permissible Temporary Concentration

NDSP	:	Maximum Allowable Ceiling Concentration
REACH	:	Registration, Evaluation, Authorisation and Restriction of Chemical
MARPOL	:	(from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
N/A	:	Not applicable
N/D	:	Not determined
NE	:	Not established
VOC	:	Volatile Organic Compound
AICS	:	Australian Inventory of Chemical Substances
AIHA WEEL	:	American Industrial Hygiene Association Workplace Environmental Exposure Limits
DSL	:	Domestic Substance List (Canada)
ELINCS	:	European List of Notified Chemical Substances
ENCs	:	Existing and new Chemical Substances (Japanese inventory)
IECSC	:	Inventory of Existing Chemical Substances in China
KECI	:	Korean Existing Chemicals Inventory
NDSL	:	Non-Domestic Substances List (Canada)
NZIoC	:	New Zealand Inventory of Chemicals
PICCS	:	Philippine Inventory of Chemicals and Chemical Substances
TLV	:	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	:	Toxic Substances Control Act (U.S. inventory)
UVCB	:	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
IBC Code	:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
UN	:	United Nations (also UNO: United Nations Organization)
NOEC	:	No Observed Effect Concentration
NOELR	:	No Observable Effect Loading Rate
OECD	:	Organization for Economic Co-operation and Development
ASTM	:	American Society for Testing and Materials
WAF	:	Water Accommodated Fraction
ADR	:	Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG	:	International Maritime Code for Dangerous Goods
IATA	:	International Air Transport Association
GHS	:	Globally Harmonised System of Classification and Labeling of Chemicals
EINECS	:	European Inventory of Existing Commercial Chemical Substances
CAS	:	Chemical Abstracts Service (division of the American Chemical Society)
DNEL	:	Derived No-Effect Level (REACH)

PNEC	:	Predicted No-Effect Concentration (REACH)
LC	:	Lethal Concentration
LD	:	Lethal Dose
LL	:	Lethal Loading
EC	:	Effective Concentration
EL	:	Effective Loading
LC50	:	Lethal concentration, 50 percent
LD50	:	Lethal dose, 50 percent
EC50	:	The concentration of the test substance that causes 50% change in response (e.g. to growth) over a specified time period
PBT	:	Persistent, Bioaccumulative and Toxic
vPvB	:	very Persistent and very Bioaccumulative
Acute Tox, 4	:	Acute toxicity - Category 4
Notice to reader	:	The information contained herein is accurate to the latest knowledge and describes the product from the point of view of help and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"