MALEIC ANHYDRIDE

SECTION 1: Identification

1.1 Product identifier
Identification of the substance: MALEIC ANHYDRIDE
CAS number: 108-31-6
Synonyms: cis-butenodioic anhydride, Dihydro - 2,5 - dioxofuran, 2,5 - furandiona, Maleic Acid anhydride, MAA, MALA, Toxílc anhydride, Maleic Abhydride.

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

1.3 Details of the supplier of the safety data sheet
RETER Comercializadora de Productos Petroquímicos S.A. de C.V.
Km. 154 Carr. México - Veracruz
90640 San Cosme Xaloztoc, Tlaxcala
Mexico

Telephone: +52 241 413 0000
Website: www.grupoidesa.com

1.4 Emergency telephone number
Emergency information service: 01-800-00-214-00
Tel. (55) 5559 1588 Cd. de México.
SETIQ

SECTION 2: Hazard(s) Identification

2.1 Classification of the substance or mixture
Classification acc. to GHS

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Category</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1O</td>
<td>acute toxicity (oral)</td>
<td>4</td>
<td>Acute Tox. 4</td>
<td>H302</td>
</tr>
<tr>
<td>3.1D</td>
<td>acute toxicity (dermal)</td>
<td>5</td>
<td>Acute Tox. 5</td>
<td>H313</td>
</tr>
<tr>
<td>3.2</td>
<td>skin corrosion/irritation</td>
<td>1B</td>
<td>Skin Corr. 1B</td>
<td>H314</td>
</tr>
<tr>
<td>3.3</td>
<td>serious eye damage/eye irritation</td>
<td>1</td>
<td>Eye Dam. 1</td>
<td>H318</td>
</tr>
<tr>
<td>3.4R</td>
<td>respiratory sensitization</td>
<td>1</td>
<td>Resp. Sens. 1</td>
<td>H334</td>
</tr>
<tr>
<td>3.4S</td>
<td>skin sensitization</td>
<td>1</td>
<td>Skin Sens. 1</td>
<td>H317</td>
</tr>
<tr>
<td>3.9</td>
<td>specific target organ toxicity - repeated exposure</td>
<td>1</td>
<td>STOT RE 1</td>
<td>H372</td>
</tr>
<tr>
<td>4.1A</td>
<td>hazardous to the aquatic environment - acute hazard</td>
<td>3</td>
<td>Aquatic Acute 3</td>
<td>H402</td>
</tr>
</tbody>
</table>
Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labeling
- Signal word: danger
- Pictograms: GHS05, GHS07, GHS08
- Hazard statements:
  H302 Harmful if swallowed.
  H313 May be harmful in contact with skin.
  H314 Causes severe skin burns and eye damage.
  H317 May cause an allergic skin reaction.
  H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  H372 Causes damage to organs through prolonged or repeated exposure.
  H402 Harmful to aquatic life.
- Precautionary statements:
  P260 Do not breathe dust/fume/gas/mist/vapors/spray.
  P280 Wear protective gloves/eye protection/face protection.
  P303+P361+P355 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
  P363 Wash contaminated clothing before reuse.
  P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance: MALEIC ANHYDRIDE
Identifiers
CAS No: 108-31-6
Molecular formula: C4H2O3
Molar mass: 98.06 g/mol
SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes
Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact
Wash with plenty of soap and water.

Following eye contact
Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion
Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water, Foam, Alcohol resistant foam, ABC-powder

Unsuitable extinguishing media
Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
   For non-emergency personnel
   Remove persons to safety.
   For emergency responders
   Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions
   Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up
   Advices on how to contain a spill
   Covering of drains, Take up mechanically
   Advices on how to clean up a spill
   Take up mechanically.
   Other information relating to spills and releases
   Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling
   Recommendations
   - Measures to prevent fire as well as aerosol and dust generation
     Use local and general ventilation. Use only in well-ventilated areas. Ground/bond container and receiving equipment.
   - Specific notes/details
     Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.
   Advice on general occupational hygiene
   Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities
   Managing of associated risks
   - Explosive atmospheres
   - Packaging compatibilities
     Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.
### 7.3 Specific end use(s)
See section 16 for a general overview.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

**Occupational exposure limit values (Workplace Exposure Limits)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Identifier</th>
<th>TWA  [ppm]</th>
<th>TWA  [mg/m³]</th>
<th>STEL [ppm]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>MX</td>
<td>maleic anhydride</td>
<td>108-31-6</td>
<td>VLE</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td>NOM-010-STPS</td>
</tr>
</tbody>
</table>

**Notation**
- **STEL**: short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified
- **TWA**: time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

#### Human health values

**Relevant DNELs and other threshold levels**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>0.4 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>0.8 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>0.4 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>0.8 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
</tbody>
</table>

#### Environment values

**Relevant PNECs and other threshold levels**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Organism</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>0.1 mg/l</td>
<td>aquatic organisms</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.01 mg/l</td>
<td>aquatic organisms</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>44.6 mg/l</td>
<td>aquatic organisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.334 mg/kg</td>
<td>aquatic organisms</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.033 mg/kg</td>
<td>aquatic organisms</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.042 mg/kg</td>
<td>terrestrial organisms</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>
8.2 Exposure controls

Appropriate engineering controls
General ventilation.

Individual protection measures (personal protective equipment)
Eye/face protection
Wear eye/face protection.

Skin protection
- Hand protection
  In the case of wanting to use the gloves again, clean them before taking off and air them well.
- Other protection measures
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection
In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls
Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>solid Crystaline.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless or White.</td>
</tr>
<tr>
<td>Odor</td>
<td>Irritant, Acre, Asphyxiant.</td>
</tr>
<tr>
<td>pH (value)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>53 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>200.1 °C at 1,014 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>103 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>this material is combustible, but will not ignite readily</td>
</tr>
<tr>
<td>Lower explosion limit (LEL)</td>
<td>57 g/m³ , 1.4%.</td>
</tr>
<tr>
<td>Upper explosion limit (UEL)</td>
<td>290 g/m³ , 7.1%.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>15.1 Pa at 22 °C</td>
</tr>
<tr>
<td>Density</td>
<td>0.93 g/cm³ at 20 °C</td>
</tr>
</tbody>
</table>
Strong oxidizing agents (perchlorates, peroxides, chromates, sodium hypochlorite) - may react violently or explosively. Increased risk of fire and explosion. Water: reacts slowly with cold water, quickly with hot water, producing heat. It forms maleic acid. Warm water may cause foam.

See below "Conditions to avoid".

No known hazardous reactions.

Metals of alkali (sodium or potassium), alkalis (eg sodium hydroxide or potassium hydroxide), alkaline earth metals, (Calcium, magnesium or barium), alkaline earth hydroxides (calcium hydroxide), amines (eg dimethylamine, triethylamine), pyridine, Quinoline, sodium or potassium carbonates, aqueous ammonia, ammonium hydroxide or ammonium salts-at temperatures over 150 DEG c, mixtures can react to produce carbon dioxide, heat and pressure. Under these conditions, a mixture can be explosive. Small amounts as low as 200 ppm of the above chemicals are sufficient to begin decomposition.

Olefins (eg, ethylene, propylene or diethylene) and the catalyst mixtures may be subjected to a copolymerization uncontrolled.

Strong reducing agents (eg, phosphorus, tin (II) chloride, metal hydrides) may react vigorously or violently. Increased risk of fire. Alcohols-react to the esters of the form.

Static load, sparks, heat, other sources of ignition, generation of dust and moisture.

### SECTION 10: Stability and reactivity

10.1 Reactivity
Strong oxidizing agents (perchlorates, peroxides, chromates, sodium hypochlorite) - may react violently or explosively. Increased risk of fire and explosion. Water: reacts slowly with cold water, quickly with hot water, producing heat. It forms maleic acid. Warm water may cause foam.

10.2 Chemical stability
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions
No known hazardous reactions.

10.4 Conditions to avoid
Metals of alkali (sodium or potassium), alkalis (eg sodium hydroxide or potassium hydroxide), alkaline earth metals, (Calcium, magnesium or barium), alkaline earth hydroxides (calcium hydroxide), amines (eg dimethylamine, triethylamine), pyridine, Quinoline, sodium or potassium carbonates, aqueous ammonia, ammonium hydroxide or ammonium salts-at temperatures over 150 DEG c, mixtures can react to produce carbon dioxide, heat and pressure. Under these conditions, a mixture can be explosive. Small amounts as low as 200 ppm of the above chemicals are sufficient to begin decomposition.

Olefins (eg, ethylene, propylene or diethylene) and the catalyst mixtures may be subjected to a copolymerization uncontrolled.

Strong reducing agents (eg, phosphorus, tin (II) chloride, metal hydrides) may react vigorously or violently. Increased risk of fire. Alcohols-react to the esters of the form.

Static load, sparks, heat, other sources of ignition, generation of dust and moisture.
The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 Incompatible materials
Oxidizers

10.6 Hazardous decomposition products
Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Classification acc. to GHS
Acute toxicity
Harmful if swallowed. May be harmful in contact with skin.

- Acute toxicity estimate (ATE)
  Oral 1,090 mg/kg
  Dermal 2,620 mg/kg

Skin corrosion/irritation
Causes severe skin burns and eye damage.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitization
May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.
MALEIC ANHYDRIDE

SECTION 12: Ecological information

12.1 Toxicity
Harmful to aquatic life.

Aquatic toxicity (acute)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>75 mg/l</td>
<td>fish</td>
<td>96 h</td>
</tr>
<tr>
<td>EC50</td>
<td>42.81 mg/l</td>
<td>aquatic invertebrates</td>
<td>48 h</td>
</tr>
<tr>
<td>ErC50</td>
<td>74.35 mg/l</td>
<td>algae</td>
<td>72 h</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
Data are not available.

12.3 Bioaccumulative potential
Data are not available.

n-octanol/water (log KOW) -2.61 (19.8 °C) (ECHA)

12.4 Mobility in soil
Data are not available.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henry's law constant</td>
<td>0 Pa m³/mol at 25 °C</td>
</tr>
<tr>
<td>The Organic Carbon normalised adsorption</td>
<td>1.624 (ECHA)</td>
</tr>
<tr>
<td>coefficient</td>
<td></td>
</tr>
</tbody>
</table>

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Sewage disposal-relevant information
Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages
Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Completely emptied pack-
ages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks
Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled
separately by the local or national waste management facilities.
### SECTION 14: Transport information

14.1 **UN number**
- 2215

14.2 **UN proper shipping name**
- MALEIC ANHYDRIDE

14.3 **Transport hazard class(es)**
- Class 8 (corrosive substances)

14.4 **Packing group**
- III (substance presenting low danger)

14.5 **Environmental hazards**
- non-environmentally hazardous acc. to the dangerous goods regulations

14.6 **Special precautions for user**
- There is no additional information.

14.7 **Transport in bulk according to Annex II of MARPOL and the IBC Code**
- The cargo is not intended to be carried in bulk.

---

**Information for each of the UN Model Regulations**

<table>
<thead>
<tr>
<th>Transport information - National regulations - Additional information (UN RTDG)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN number</strong></td>
</tr>
<tr>
<td><strong>Proper shipping name</strong></td>
</tr>
<tr>
<td><strong>Class</strong></td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
</tr>
<tr>
<td><strong>Danger label(s)</strong></td>
</tr>
</tbody>
</table>

| Special provisions (SP) | - (UN RTDG) |
| Excepted quantities (EQ) | E0 (UN RTDG) |
| Limited quantities (LQ) | 0 (UN RTDG) |

**International Maritime Dangerous Goods Code (IMDG)**

| **UN number** | 2215 |
| **Proper shipping name** | MALEIC ANHYDRIDE |
| **Class** | 8 |
| **Packing group** | III |
| **Danger label(s)** | 8 |

| Special provisions (SP) | - |
| Excepted quantities (EQ) | E0 |
| Limited quantities (LQ) | 0 |
| EmS | F-A, S-B |
| Stowage category | A |
There is no additional information.

Segregation group
1 - Acids

International Civil Aviation Organization (ICAO-IATA/DGR)
UN number
2215
Proper shipping name
Maleic anhydride
Class
8
Packing group
III
Danger label(s)
8

Excepted quantities (EQ)
E1
Limited quantities (LQ)
5 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question
There is no additional information.

National regulations (United States)
Toxic Substance Control Act (TSCA)
substance is listed

SARA TITLE III (Superfund Amendment and Reauthorization Act)
- List of Extremely Hazardous Substances (40 CFR 355) (EPCRA Section 302 and 304)
not listed
- Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

<table>
<thead>
<tr>
<th>Name acc. to inventory</th>
<th>CAS No</th>
<th>Remarks</th>
<th>Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>maleic anhydride</td>
<td>108-31-6</td>
<td></td>
<td>1986-12-31</td>
</tr>
</tbody>
</table>

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
- Section 102(A) Hazardous Substances (40 CFR 302.4)

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Remarks</th>
<th>Statutory code</th>
<th>Final RQ pounds (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>maleic anhydride</td>
<td>108-31-6</td>
<td></td>
<td>1 3 4</td>
<td>5000 (2270)</td>
</tr>
</tbody>
</table>

Legend
1  "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
3  "3" indicates that the source is section 112 of the Clean Air Act
4  "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)
MALEIC ANHYDRIDE

Clean Air Act
not listed

New Jersey Worker and Community Right to Know Act N.J.S.A. 34:5A-1 et. seq.

Right to Know Hazardous Substance List

<table>
<thead>
<tr>
<th>Name acc. to inventory</th>
<th>CAS No</th>
<th>Remarks</th>
<th>Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>maleic anhydride</td>
<td>108-31-6</td>
<td></td>
<td>CO R1</td>
</tr>
</tbody>
</table>

Legend
CO Corrosive
R1 Reactive - First Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 Chemicals known to the State to cause cancer or reproductive toxicity
not listed

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NOM-010-STPS</td>
<td>NORMA Oficial Mexicana NOM-010-STPS: Agentes químicos contaminantes del ambiente laboral-Reconocimiento, evaluación y control</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>ppm</td>
<td>Parts per million</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>Time-weighted average</td>
</tr>
<tr>
<td>VLE</td>
<td>Permissible exposure limit</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>
MALEIC ANHYDRIDE

Key literature references and sources for data

List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H313</td>
<td>May be harmful in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life.</td>
</tr>
</tbody>
</table>

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