

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

- **Product identifier**
- **Trade name:** Maleic anhydride
- **CAS Number:**
108-31-6
- **EC number:**
203-571-6
- **Index number:**
607-096-00-9
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** Rama Chem Trading FZE
WS23, A1008, Tower A, Jafza one building, Jebel ali, Dubai, UAE
- **Further information obtainable from:**

HEALTH	3
FIRE	1
REACTIVITY	0

Product safety department.
info@ramagroup.ae

2 Hazards identification

- **Classification of the substance or mixture**



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

STOT RE 1 H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.



corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1A H317 May cause an allergic skin reaction.

Acute Tox. 5 H313 May be harmful in contact with skin.

- **Label elements**

- **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

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Hazard pictograms

Signal word *Danger*
Hazard statements
Harmful if swallowed.
May be harmful in contact with skin.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.
Precautionary statements
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

3 Composition/information on ingredients

Chemical characterisation: Substances
CAS No. Description

108-31-6 maleic anhydride

Identification number(s)
EC number: 203-571-6

Index number: 607-096-00-9

4 First aid measures

Description of first aid measures
General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
After inhalation: *Supply fresh air; consult doctor in case of complaints.*
After skin contact: *Generally the product does not irritate the skin.*
After eye contact: *Rinse opened eye for several minutes under running water. Then consult a doctor.*
After swallowing: *Call for a doctor immediately.*
Information for doctor:
Most important symptoms and effects, both acute and delayed *No further relevant information available.*

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- **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 Use neutralising agent.
 Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Thorough dedusting.
 Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

 · **Ingredients with limit values that require monitoring at the workplace:**
108-31-6 maleic anhydride

 PEL (USA) Long-term value: 1 mg/m³, 0.25 ppm

 REL (USA) Long-term value: 1 mg/m³, 0.25 ppm

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TLV (USA)	Long-term value: 0.01* mg/m ³ , 0.0025* ppm DSEN, RSEN; *inhalable fraction + vapor
WEL (Great Britain)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ Sen

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Solid

Colour: White

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

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|---|---|
| · Change in condition | |
| Melting point/freezing point: | 52.6 °C |
| Initial boiling point and boiling range: | 202 °C |
| · Flash point: | 103 °C |
| · Flammability (solid, gas): | Product is not flammable. |
| · Ignition temperature: | 380 °C |
| · Decomposition temperature: | Not determined. |
| · Auto-ignition temperature: | Not determined. |
| · Explosive properties: | Product does not present an explosion hazard. |
| · Explosion limits: | |
| Lower: | 1.4 Vol % |
| Upper: | 7.1 Vol % |
| · Vapour pressure at 20 °C: | 0.2 hPa |
| · Density at 20 °C: | 1.48 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with water at 20 °C: | 788 g/l |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

Oral	LD50	400 mg/kg (rat)
Dermal	LD50	2,620 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.

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- **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation** Sensitisation possible through inhalation.


12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|-------------------------------------|---|
| · UN-Number | |
| · ADR, IMDG, IATA | UN2215 |
| · UN proper shipping name | |
| · ADR | 2215 MALEIC ANHYDRIDE |
| · IMDG, IATA | MALEIC ANHYDRIDE |
| · Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| |  |
| · Class | 8 Corrosive substances. |
| · Label | 8 |
| · Packing group | |
| · ADR, IMDG, IATA | III |

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· Environmental hazards:	<i>Not applicable.</i>
· Special precautions for user	<i>Warning: Corrosive substances.</i>
· Hazard identification number (Kemler code):	<i>80</i>
· EMS Number:	<i>8-05</i>
· Segregation groups	<i>Acids</i>
· Stowage Category	<i>A</i>
· Segregation Code	<i>SG50 Segregation from foodstuffs as in 7.3.4.2.1, 7.6.3.1.2 or 7.7.3.6. SG57 Stow "separated from" odour-absorbing cargoes</i>
· Transport in bulk according to Annex II of Marpol and the IBC Code	<i>Not applicable.</i>
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	<i>E1</i>
· Excepted quantities (EQ)	<i>Code: E0 Not permitted as Excepted Quantity</i>
· Transport category	<i>3</i>
· Tunnel restriction code	<i>E</i>
· IMDG	
· Limited quantities (LQ)	<i>E1</i>
· Excepted quantities (EQ)	<i>Code: E0 Not permitted as Excepted Quantity</i>
· UN "Model Regulation":	<i>UN 2215 MALEIC ANHYDRIDE, 8, III</i>

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** *Danger*
- **Hazard statements**
*Harmful if swallowed.
May be harmful in contact with skin.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.*
- **Precautionary statements**
*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.*

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Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department.

- **Contact:** PME

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity - oral – Category 4

Acute Tox. 5: Acute toxicity - dermal – Category 5

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1A: Skin sensitisation – Category 1A

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1