

# Mikro Teknik Kimyevi Mad. Lab. Malz. ve Cih.

San. Tic. Ltd. Şti.

Dated 20/12/2024

Revision nr. 1

First compilation Printed on 20/12/2024

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MKR-0136 - Maleic Anhydride

Safety Data Sheet
According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

MKR-0136 Code: Product name Maleic Anhydride INDEX number 607-096-00-9 EC number 203-571-6 CAS number 108-31-6

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

Intended use not available

#### 1.3. Details of the supplier of the safety data sheet

Name Mikro Teknik Kimyevi Mad. Lab. Malz. ve Cih. San. Tic. Ltd. Şti.

Full address ULUDAĞ ORGANİZE SANAYİ BÖLGESİ KALE MAH.KILIÇLAR CAD. NO:10 KESTEL District and Country

16450 BURSA

TR

Tel. +90 224 372 50 23 Fax +90 224 372 50 29

## 1.4. Emergency telephone number

For urgent inquiries refer to +90 224 372 50 23

## **SECTION 2. Hazards identification**

#### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Acute toxicity, category 4	H302	Harmful if swallowed.
Specific target organ toxicity - repeated exposure, category 1	H372	Causes damage to organs through prolonged or repeated
		exposure.
Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.

## 2.2. Label elements



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Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

#### Hazard pictograms:







Signal words: Danger

Hazard statements:

H302 Harmful if swallowed.

**H372** Causes damage to organs through prolonged or repeated exposure.

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.
EUH071 Corrosive to the respiratory tract.

Precautionary

statements:

Do not breathe dust / fume / gas / mist / vapours / spray.

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

rinsing

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

**P280** Wear protective gloves/ protective clothing / eye protection / face protection.

P310 Immediately call a POISON CENTER / doctor / . . .

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Contains: MALEIC ANHYDRIDE

INDEX 607-096-00-9

#### 2.3. Other hazards

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB).

The substance does not have endocrine disrupting properties.

## **SECTION 3. Composition/information on ingredients**

#### 3.1. Substances

Contains:

Identification Conc. % Classification (EC) 1272/2008 (CLP)

**MALEIC ANHYDRIDE** 

INDEX 607-096-00-9 100 Acute Tox. 4 H302, STOT RE 1 H372, Skin Corr. 1B H314, Eye Dam. 1

H318, Resp. Sens. 1 H334, Skin Sens. 1A H317, EUH071



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EC 203-571-6

Skin Sens. 1A H317: 0.001%

CAS 108-31-6

LD50 Oral: 400 mg/kg

The full wording of hazard (H) phrases is given in section 16 of the sheet.

#### **SECTION 4. First aid measures**

#### 4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Information not available

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

Information not available

### **SECTION 5. Firefighting measures**

#### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

## 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE Do not breathe combustion products.

## 5.3. Advice for firefighters

### GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).



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#### **SECTION 6. Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

#### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

#### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

#### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## **SECTION 7. Handling and storage**

#### 7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

## 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

#### 7.3. Specific end use(s)

Information not available

## **SECTION 8. Exposure controls/personal protection**

#### 8.1. Control parameters

Regulatory References:

GBR United Kingdom TLV-ACGIH

EH40/2005 Workplace exposure limits (Fourth Edition 2020)

ACGIH 2022

## MALEIC ANHYDRIDE

**Threshold Limit Value** 



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Туре	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
WEL	GBR	1		3			
TLV-ACGIH		0,01	0,0025			INHAL	

Legend:

(C) = CEILING; INHAL = Inhalable Fraction; RESP = Respirable Fraction; THORA = Thoracic Fraction.

#### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

#### HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, failure time and permeability. The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

#### SKIN PROTECTION

Wear category III professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

### RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

#### ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.



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## **SECTION 9. Physical and chemical properties**

#### 9.1. Information on basic physical and chemical properties

Properties Value Information

Appearance Solid. (Crystals solid.)

Colour white Odour not available 52,8 °C Melting point / freezing point 185 °C Initial boiling point Flammability not available Lower explosive limit not available Upper explosive limit not available 103 °C Flash point Auto-ignition temperature not available Decomposition temperature not available

pH not available
Kinematic viscosity not available

Solubility soluble in cold water, hot

water. Very slightly soluble in

methanol

Partition coefficient: n-octanol/water not available Vapour pressure not available

Density and/or relative density 1,32

Relative vapour density not available
Particle characteristics not applicable

#### 9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

## **SECTION 10. Stability and reactivity**

## 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

## 10.2. Chemical stability



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The product is stable in norms	al conditions of use and storage.	
THE DIODUCE IS STADIE III HOITHA	al conditions of use and storage.	

### 10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

#### 10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

#### 10.5. Incompatible materials

Information not available

### 10.6. Hazardous decomposition products

Information not available

## **SECTION 11. Toxicological information**

11.1. Information	on nazard	ciasses as	aetinea in	Regulation	(EC) NO 12	2/2/2008

Metabolism, toxicokinetics, mechanism of action and other information	
Information not available	

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available



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ACUTE TOXICITY		
Corrosive to the respiratory tract.		
locations to the respiratory tract.		
MALEIC ANHYDRIDE		
Acute toxicity, category 4. Harmful if sw	vallowod	
Acute toxicity, category 4. Harmiur if Sw	valloweu.	
LD50 (Dermal):	610 mg/kg Rat	
LD50 (Oral):	400 mg/kg Rat	
SKIN CORROSION / IRRITATION		
Corrosive for the skin		
SERIOUS EYE DAMAGE / IRRITATIO	<u>N</u>	
Causes serious eye damage		
RESPIRATORY OR SKIN SENSITISA	TION	
Sensitising for the skin		
Sensitising for the skill		
Sensitising for the respiratory system		
CEDM CELL MUTACENICITY		
GERM CELL MUTAGENICITY		
Does not meet the classification criteria	a for this hazard class	
CARCINOGENICITY		
<u>CARCINOGENIGITT</u>		
Does not meet the classification criteria	a for this hazard class	
REPRODUCTIVE TOXICITY		



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Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Causes damage to organs

#### ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

## 11.2. Information on other hazards

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

## **SECTION 12. Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

## 12.1. Toxicity

Information not available

## 12.2. Persistence and degradability

MALEIC ANHYDRIDE

Solubility in water > 10000 mg/l

Entirely degradable

#### 12.3. Bioaccumulative potential

MALEIC ANHYDRIDE

Partition coefficient: n-octanol/water -2,78



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#### 12.4. Mobility in soil

Information not available

#### 12.5. Results of PBT and vPvB assessment

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB). 12.6. Endocrine disrupting properties

Based on the available data, the substance is not listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation

#### 12.7. Other adverse effects

Information not available

## **SECTION 13. Disposal considerations**

#### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

### **SECTION 14. Transport information**

#### 14.1. UN number or ID number

ADR / RID, IMDG, IATA: 2215

#### 14.2. UN proper shipping name

ADR / RID: MALEIC ANHYDRIDE or MALEIC ANHYDRIDE, MOLTEN IMDG: MALEIC ANHYDRIDE or MALEIC ANHYDRIDE, MOLTEN IATA: MALEIC ANHYDRIDE or MALEIC ANHYDRIDE, MOLTEN

## 14.3. Transport hazard class(es)

ADR / RID: Class: 8 Label: 8

IMDG: Class: 8 Label: 8





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Label: 8



14.4. Packing group

IATA:

ADR / RID, IMDG, IATA: Ш

Class: 8

14.5. Environmental hazards

ADR / RID: NO IMDG: NO NO IATA:

14.6. Special precautions for user

ADR / RID: HIN - Kemler: 80 Limited Tunnel Quantities: 5

restriction kg code: (E)

Packaging

Packaging

860

instructions:

instructions: 864

Special provision: -

IMDG: EMS: F-A, S-B Limited

Quantities: 5

IATA: Cargo:

Maximum quantity: 100

Kg Passengers: Maximum

quantity: 25

Kg A803 Special provision:

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

## **SECTION 15. Regulatory information**

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>

Point 3

Contained substance

Point 75



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Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

## 15.2. Chemical safety assessment

Has not been performed / is not yet available a chemical safety assessment for the substance.

## **SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Acute Tox. 4 Acute toxicity, category 4

STOT RE 1 Specific target organ toxicity - repeated exposure, category 1

Skin Corr. 1B Skin corrosion, category 1B Eye Dam. 1 Serious eye damage, category 1 Resp. Sens. 1 Respiratory sensitization, category 1 Skin Sens. 1A Skin sensitization, category 1A

H302 Harmful if swallowed.



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H372 Causes damage to organs through prolonged or repeated exposure.

H314 Causes severe skin burns and eve damage.

H318 Causes serious eye damage.

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

H317 May cause an allergic skin reaction. EUH071 Corrosive to the respiratory tract.

#### FGFND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect) CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008 DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

## GENERAL BIBLIOGRAPHY

- 1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
- 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
- 3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
- 4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
- 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
- 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
- 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
- 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
- 13. Regulation (EU) 2017/776 (X Atp. CLP)
- 14. Regulation (EU) 2018/669 (XI Atp. CLP)
- 15. Regulation (EU) 2019/521 (XII Atp. CLP)
- 16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
- 17. Regulation (EU) 2019/1148



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- 18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
- 19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
- 20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
- 21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP) 22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. 10th Edition
- Handling Chemical Safety
- INRS Fiche Toxicologique (toxicological sheet)
- Patty Industrial Hygiene and Toxicology
- N.I. Sax Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals Ministry of Health and ISS (Istituto Superiore di Sanità) Italy

#### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

#### Begüm ALTUNKAYA

#### CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.