



INTERNATIONAL DIOL COMPANY

MATERIAL SAFETY DATA SHEET MALEIC ANHYDRIDE

1. PRODUCT MANUFACTURER INFORMATION

Product Name	Maleic Anhydride
Manufacturer	International Diol Company PO Box 12021 Jubail Industrial City - 31961 Kingdom Of Saudi Arabia.
Emergency Telephone No	+966 3 359 9985 (24 hours)
ID No	CAS NO 108-31-6
Company (affiliate) website	http://sipchem.com/en/affiliates.htm

2. HAZARDOUS COMPONENTS

Material Name:	Maleic Anhydride	> 99 %
Trace Impurities:	DibuyI phthalate ,Acrylic acid,Phthalic acid and anhydride.	

3. PRODUCT INFORMATION

Product Name	Maleic Anhydride
Trade Name/Synonyms	2,5 –FURANDION
U.N. Number	UN2215
Product Use	Manufacture of polyester resin,fumaric acid,tartaric acid etc.

4. FIRST AID INFORMATION

Skin	Remove the contaminated clothing including footwear.Wash the affected areas with water and soap for atleast 15 minutes.
Eye	Immediately hold the eyes open and flush continuously for atleast 15 min with fresh water.Seek medical attention immediately.
Inhalation	Remove to fresh air.Lay patient down.Restore or assist breathing if necessary.Transport to medical attention immediately.
Ingestion.	Give water or milk to rinse out mouth.Then provide liquid slowly as much as can the casualty can drink.Transport to hospital immediately.Never Give liquid to the person showing signs of sleep or unconsciousness. Donot induce vomiting.

POTENTIAL HEALTH EFFECTS

Target Organs	Eyes,respiratory system,skin.
Entry Routes	Inhalation,skin/eye contact,ingestion.
Inhalation	The vapor/mist is highly discomforting to the upper respiratory tract. Resulting in allergic/asthma like reponses,coughing,sneezing and minor breathing difficulties to bronchitis with wheezing,gasping together with burning and irritation of throat.
Eye:	Contact with eyes may cause irritation of the conjunctiva,corneal swelling and burns.Photophobia and double vision may be temporarily experienced.
Skin:	Skin sensitization and skin reactions which may lead to dermatitis, Contact with moist skin may cause reddening and blistering.Molten Material may cause first degree burns on short exposure and secondary burns on long exposure.
Ingestion:	The solid /dust is corrosive to the gastrointestinal tract and harmful if



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Exposure Limits	swallowed. OSHA PEL TWA : 0.25 ppm;1mg/m3 NIOSH REL TWA : 0.25 ppm;1mg/m3 DFG (Germany) MAK TWA :0.1 ppm; PEAK : 0.1 ppm Ceiling :0.2 ppm Danger of sensitization of airways and the skin. ACGIH TLV TWA: 0.1 ppm ; sensitization potential. IDLH Level 10 mg/m3
Long Term Effects	Repeated inhalation/exposure exceeding concentration of 1.25 ppm may cause chronic bronchitis of the asthamatic Type,Pulmonary edema (delayed to 72 hrs) and ulceration of nasal Mucosa and dermatitis.
Teratogenicity	No data
Mutagenicity	No data
Carcinogenicity	NTP,IARC,OSHA,NIOSH,ACGIH,EPA,MAK – Not listed.

5. FIRE FIGHTING MEASURES

Fire hazards	Combustible,Vapor may readily form an explosive mixture with air. On combustion amy emit toxic fumes of carbonmonoxide,acid smoke.
Fire-Fighting	Wear full body protective clothing with breathing apparatus..Use fine spray water to control fire and cool adjacent area.Avoid spraying water onto liquid pools.Prevent by all means available ,the spillage entering drains or waterways.

6. ACCIDENTAL RELEASE MESURES

Flash Point	103 degC
Auto ignition	470 deg C
Explosive Limit	LEL: 1.4 % v/v , UEL : 7.1% v/v
Extinguishing Media	Water spray or fog , foam,carbondioxide. Note: Dry chemicals not recommended for they contain alkalis which may cause rapid exothermic reactions.

7. HANDLING AND STORAGE

Storage	Storage tanks should be constructed of Stainless steel,grounded & safe vented.
Handling	Use spark free tools ,Avoid generation of electricity and ground all lines and equipment.No smoking & ignition sources near storage area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Local Exhaust ventilation is required.
Gloves	Wear chemical protective gloves eg PVC
Respiratory	NIOSH approved Self Contained Breathing Appratus (SCBA)
Eye	Chemical goggles ,full face shield.
Clothing	PVC Apron,PVC protective suit may be required for severe exposure.

9. PHYSICAL AND GHEMICAL PROPERTIES

Physical State	divided solid and molten liquid above 52.8 deg C.
Appearance	-
Specific Gravity	1.43 gm/cc at 15 DegC.



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Freezing Point/Melting point	52.8 Deg C.
Boiling Point	202 Deg C.
Vapour Pressure kPa	1.33 at 78.7 deg C.
Vapour Density (air=1)	3.38
Molecular Weight	98.06
Volatility % v/v	Non volatile.

10. STABILITY AND REACTIVITY

Incompatible with	Segregate from alkali metals eg. Sodium,potassium,lithium,amines, Alkalies and oxidizing agents.
Conditions of Reactivity	Caution: Maleic Anhydride decomposes in the presence of alkali metals or amines at temperature exceeding 150 DegC.Exothermic reaction may take place and gas evolved at high rate to rupture closed containers.

11. TOXICOLOGICAL INFORMATION

Toxicity	Oral (rat) LD 50 : 400 mg/kg Deraml (Rabbit) LD50 : 2620 mg/kg.
Irritation	Eye (Rabbit) 1 % Severe

12. ECOLOGICAL INFORMATION

Ecotoxicity	TLm Mosquito fish 230 to 240 mg/l/24 to 96 hr/Conditions of bioassay not specified.
BOD	50 % , 5 Days.

13. DISPOSAL CONSIDERATIONS

Spill	Remove all ignition sources.Small spill can be absorbed in sand,earth or vermiculite.Diking is necessary for large spills for collection and recycling.Water spray or fog may be used to disperse/absorb vapour. Prevent spill entry to drains & sewers.
Disposal	Place in suitable labelled container for waste disposal or recycle to recover the Product.

14. TRANSPORT INFORMATION

Shipping Name	Maleic Anhydride
Hazard Class	8 – Corossive material
ID No	UN 2215
Packing Group	III – Minor danger
Label	8- Corrosive
NFPA Rating	Health - 3 , Fire - 1, Reactivity - 1



15. REGULATORY INFORMATION

RCRA 40 CFR	listed U 147 Toxic waste
CERCLA 40 CFR 302.4	listed per CWA Section 311(b)(4),per RCRA section 3001 – 5000 lb
SARA 40 CFR 372.65	Listed
SARA EHS 40 CFR 355	Listed
TSCA	Listed



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16. OTHER INFORMATION

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