

Agar Scientific Ltd

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Material Safety Data Sheet**Methyl nadic anhydride [R1083]****Section 1: Company Identification and Product**

Product Name: Methyl nadic anhydride [100g]

Synonyms: Methyl-5-norbornene-2,3-dicarboxylic anhydride; MNA

CAS Number: 25134-21-8

Supplier: **Agar Scientific Ltd**

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Product Use: Hardener used in resins for microscopy

Date of MSDS preparation: 26th March 2009

Section 2: Hazards Identification

EC symbols and classification:



Corrosive

Risk Phrases:

R20/22	Harmful by inhalation and if swallowed
R34	Causes burns
R42	May cause sensitisation by inhalation

Section 3: Composition / Information on Ingredients

Product	CAS Number	EC Number	%
Methyl nadic anhydride	25134-21-8	246-644-8	>96

Section 4: First Aid Measures

Inhalation: Remove casualty from exposure to fresh air, ensuring ones own safety whilst doing so. If not breathing give artificial respiration. If breathing is difficult administer oxygen if available. Seek medical advice immediately.

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench affected skin with running water for at least 10 minutes. Seek medical advice.

Eye contact: Bathe the eye with running water for 15 minutes, holding the eyelid open with gloved fingers. Seek medical advice.

Ingestion: Do not induce vomiting. Rinse out mouth with water. If chemical has been swallowed rinse mouth and then drink plenty of water or milk. Seek medical advice.

Section 5: Fire Fighting Measures

Extinguishing media: Suitable media are carbon dioxide, dry chemical powder or appropriate foam.

Exposure hazards: Under fire conditions emits toxic fumes.

Protection of fire fighters: Wear SCBA and protective clothing to prevent contact with skin and eyes.

Section 6: Accidental Release Measures

Personal precautions: Evacuate the area. Ensure maximum ventilation. Use SCBA and wear protective clothing and gloves.

Environmental precautions: Avoid material entering drains.

Clean-up procedures: Absorb spill in an inert material such as sand or vermiculite. Pick up and place in a suitable container. Keep tightly closed and dispose of as hazardous waste. Wash the area after pick-up is complete.

Section 7: Handling and Storage

Handling: Do not breathe vapour. Do not get in eyes, on skin or clothing. Avoid prolonged or repeated exposure.

Storage: Store in a cool, dry, well ventilated area for corrosives, in tightly closed containers.

Section 8: Exposure Controls / Personal Protection

Engineering measures: Use in a chemical fume hood. Safety shower and eye wash station should be at hand.

Respiratory protection: Where risk assessment suggests that a respirator is appropriate, ensure these are approved to government standards such as NIOSH (US) or CEN (EU)

Hand protection: Use compatible chemical resistant gloves

Eye protection: Wear safety glasses or goggles.

Section 9: Physical and Chemical Properties

Molecular Formula	C ₁₀ H ₁₀ O ₃
Molecular Weight	178.19
Physical State / Appearance	Pale yellow, clear viscous liquid
Melting Point [°C]	
Boiling Point [°C]	137-140 @ 10mm Hg
Flash Point [°C]	135 [closed cup]
Vapour Pressure	5 mm Hg @ 120°C
SG / Density	1.23 g/ml
Solubility	Will hydrolyse in water

Section 10: Stability and Reactivity

Stability: Stable under indicated storage conditions. May decompose on exposure to moist air or water.

Materials to avoid: Water, oxidising agents, strong bases and strong acids.

Hazardous decomposition products: Carbon dioxide and carbon monoxide under fire conditions.

Section 11: Toxicological Information

RTECS: RB9100000

Acute Data:

LD ₅₀	oral rat	914 mg/kg.
LD ₅₀	dermal rabbit	4920 mg/kg.
LD ₅₀	intraperitoneal mouse	100mg/kg
LCLo/4H	inhalation rat	750mg/m ³

Sensitisation: May cause allergic respiratory reaction

Potential Health Effects: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi. Other symptoms may include itching; dermatitis; conjunctivitis; corneal opacity and difficulty in breathing.

Section 12: Ecological Information

NIF

Section 13: Disposal Considerations

Waste disposal: Dispose of in accordance with local and national guidelines. If approved facilities are available the use of a chemical incinerator equipped with afterburners and scrubbers may be appropriate.

Section 14: Transport Information

Shipment method	Shipping Name	UN No.	Class	Packing Group	Other Data
ADR / RID	Corrosive liquid, acidic, organic, nos	3265	8	III	
IMDG / IMO	Corrosive liquid, acidic, organic, nos	3265	8	III	
IATA / ICAO	Corrosive liquid, acidic, organic, nos	3265	8	III	Pkg Inst 818

Section 15: Regulatory Information

Labelling according to EC directives:

Hazard Symbol: Corrosive

Risk Phrases:

R20/22 Harmful by inhalation and if swallowed

R34 Causes burns

R42 May cause sensitisation by inhalation

Safety Phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36/37/39 Wear suitable protective clothing, gloves and eye / face protection

S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

Section 16: Other Information

Possible abbreviations used in this document:

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

The information and recommendations contained in this data sheet should assist the user with the safe handling of this material when properly applied. AGAR SCIENTIFIC LIMITED cannot accept responsibility for the consequences of any misuse of this material.