

Safety Data Sheet
According to 1907/ 2006/EC, Article 31

Trade Name : 4M HARDENER 851
Printing date 01.06.2020

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

- Product identifier
- Trade name: **4M HARDENER 851**
- Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
- Application of the substance / the mixture **Coating**
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
4M For Coatings co.
Industry Area , Area G, Block C9
Port Said Governorate
Egypt
Ch.M_Loutfy@4mcoatings.com
- Further information obtainable from: *Product safety department*
- Emergency telephone number: *During normal opening times: +2 01099354294*

2 Hazards identification

- Classification of the substance or mixture
- Classification according to Regulation (EC) No 1263/2012



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

STOT SE 2 H371 May cause damage to organs.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- Label elements
- Labelling according to Regulation (EC) No 1263/2012
The product is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

xylene
n-butyl acetate
methanol
2-butoxyethanol

· **Hazard statements**

H225 Highly flammable liquid and vapour.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H371 May cause damage to organs.
H336 May cause drowsiness or dizziness.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

35 % of the mixture consists of component(s) of unknown toxicity.

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterisation:** *Mixtures*

- **Description:** *Mixture of substances listed below with nonhazardous additions.*

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· Dangerous components:		
	short oil alkyd resin ⚠ Flam. Liq. 3, H226	> 25 – ≤ 50%
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1	n-butyl acetate ⚠ Flam. Liq. 3, H226 ⚠ STOT SE 3, H336	> 10 – ≤ 25%
CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9	xylene ⚠ Flam. Liq. 3, H226 ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	> 2.5 – ≤ 10%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X	methanol ⚠ Flam. Liq. 2, H225 ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 ⚠ STOT SE 1, H370	> 2.5 – ≤ 10%
CAS: 111-76-2 EINECS: 203-905-0 Index number: 603-014-00-0	2-butoxyethanol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	> 2.5 – ≤ 10%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** *Mouth respiratory protective device.*

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
*Mount respiratory protective device.
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:**
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.*
- **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**
*Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.*
- **Information about fire - and explosion protection:**
*Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *Store in a cool location.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:**
*Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.*

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· *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:**

1330-20-7 xylene

IOELV Short-term value: 442 mg/m³, 100 ppm
Long-term value: 221 mg/m³, 50 ppm
Skin

67-56-1 methanol

IOELV Long-term value: 260 mg/m³, 200 ppm
Skin

111-76-2 2-butoxyethanol

IOELV Short-term value: 246 mg/m³, 50 ppm
Long-term value: 98 mg/m³, 20 ppm
Skin

· **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.
Avoid contact with the skin.
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. As the product is a preparation of several substances, the

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resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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: Liquid
Colour: According to product specification

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: 64.7 °C

· **Flash point:** 25 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 240 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 1.1 Vol %
Upper: 7.5 Vol %

· **Vapour pressure at 20 °C:** 10.7 hPa

· **Density at 20 °C:** $\geq 0.9 \text{ g/cm}^3$

· **Relative density** Not determined.

· **Vapour density** Not determined.

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· <i>Evaporation rate</i>	<i>Not determined.</i>
· <i>Solubility in / Miscibility with water:</i>	<i>Not miscible or difficult to mix.</i>
· <i>Partition coefficient: n-octanol/water:</i>	<i>Not determined.</i>
· <i>Viscosity:</i> <i>Dynamic at 20 °C:</i> <i>Kinematic:</i>	<i>≥ 2,000 mPas</i> <i>Not determined.</i>
· <i>Solvent content:</i> <i>Organic solvents:</i> <i>VOC (EC)</i>	<i>40.0 %</i> <i>40.00 %</i>
· <i>Solids content:</i> · <i>Other information</i>	<i>25.0 %</i> <i>No further relevant information available.</i>

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**
Harmful if inhaled.

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

ATE (Acute Toxicity Estimates)

Oral	LD50	29,600 mg/kg (rat)
Dermal	LD50	5,714 mg/kg
Inhalative	LC50/4 h	5 mg/l

123-86-4 n-butyl acetate

Oral	LD50	13,100 mg/kg (rat)
Dermal	LD50	> 5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	> 21 mg/l (rat)

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1330-20-7 xylene		
Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
67-56-1 methanol		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)
111-76-2 2-butoxyethanol		
Oral	LD50	1,480 mg/kg (rat)
Dermal	LD50	400 mg/kg (rab)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause damage to organs.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- *Waste treatment methods*
- *Recommendation*
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· <i>European waste catalogue</i>	
HP 3	Flammable
HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6	Acute Toxicity

- *Uncleaned packaging:*
- *Recommendation:* Disposal must be made according to official regulations.

14 Transport information

· <i>UN-Number</i>	
· <i>ADR, IMDG, IATA</i>	UN1263
· <i>UN proper shipping name</i>	
· <i>ADR</i>	1263 PAINT
· <i>IMDG, IATA</i>	PAINT
· <i>Transport hazard class(es)</i>	
· <i>ADR, IMDG, IATA</i>	
	
· <i>Class</i>	3 Flammable liquids.
· <i>Label</i>	3
· <i>Packing group</i>	
· <i>ADR, IMDG, IATA</i>	III
· <i>Environmental hazards:</i>	Not applicable.
· <i>Special precautions for user</i>	Warning: Flammable liquids.
· <i>Danger code (Kemler):</i>	33
· <i>EMS Number:</i>	F-E, <u>S-E</u>
· <i>Stowage Category</i>	A
· <i>Transport in bulk according to Annex II of Marpol and the IBC Code</i>	Not applicable.

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· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

500 ml

· **Excepted quantities (EQ)**

Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· **Transport category**

III

· **Tunnel restriction code**

D/E

· **IMDG**

· **Limited quantities (LQ)**

500 ml

· **Excepted quantities (EQ)**

Code: E3

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 300 ml

· **UN "Model Regulation":**

UN 1263 PAINT, 3,III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

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H336 May cause drowsiness or dizziness.

H370 Causes damage to organs.

· **Department issuing SDS:** Product safety department

· **Contact:** Mr. Mohamed Nabil

· **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

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· *** Data compared to the previous version altered.**