

## Material Safety Data Sheet

SDS date: 24-10-2019

SDS version: 1.0

---

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

---

#### 1.1. Product Identifier

Trade Name: DMS E-D80 B-component

Product- no.: 654-040060 (part of kit 619-s0400125)

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

Recommended uses: The product is part of a 2-component system. Conformity with safety data sheet for both components when mixing with other component.

Uses advised against: This product must not be used for purposes other than those recommended without first seeking the advice of the supplier.

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

##### Company and address

**Supplier:**

DMS A/S

T: +45 7023 4343

F: +45 7023 4342

dms@dms-as.com

www.dms-as.com

**Manufacturer:**

Promal A/S

Joachim Wellers Vej 27

7500 Holstebro

Tlf.: +45 96 10 50 80

www.promal.dk

**Contact person and E-mail:**

Erling Kristensen, info@promal.dk

**The Safety data sheet is completed and validated by:**

mediator A/S, Centervej 2, DK-6000 Kolding. Consultant: HG

#### 1.4. Emergency telephone number

NHS: 111

Use your national or local emergency number - See section 4 "First aid measures".

---

## SECTION 2: Hazards identification

---

### 2.1. Classification of the substance or mixture

CLP (1272/2008): Acute Tox. 4;H302, Skin Corr. 1B;H314, Skin Sens. 1;H317, Aquatic Chronic 3;H412.  
See full text of H-phrases in section 16.

### 2.2. Label elements



#### Signal word:

Warning

Harmful if swallowed. (H302)

Causes severe skin burns and eye damage. (H314)

May cause an allergic skin reaction. (H317)

Harmful to aquatic life with long lasting effects. (H412)

If medical advice is needed, have product container or label at hand. (P101)

Keep out of reach of children. (P102)

Avoid release to the environment. (P273)

Wear protective gloves /protective clothing/eye protection/face protection. (P280)

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER/doctor. (P303+P361+P353+P310)

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

Dispose of contents/container in accordance with local regulation. (P501)

### 2.3. Other hazards

Tactile warning. If this product is sold retail, it has to be delivered in a child proved container.

The product contains a small amount of organic solvents. Repeated exposure to organic solvents may cause damage to the central nervous system and internal organs fx. liver and kidney.

#### Additional labelling:

-

#### Additional warnings:

-

## SECTION 3: Composition/information on ingredients

### 3.1./3.2. Substances/Mixtures

Substance	EU-Index no.	Cas / EINECS no.	CLP-classification	w/w%	Note
Benzyl alcohol	603-057-00-5	100-51-6/ 202-859-9	Acute Tox. 4;H302, H332	20-40	-
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	612-067-00-9	2855-13-2/ 220-666-8	Acute Tox. 4;H302, H312, Skin Corr. 1B;H314, Skin Sens. 1;H317, Aquatic Chronic 3;H412	20-40	-
Polyamin-epoxy resin adduct	-	2605449-92-6 /-	Eye Dam. 1;H318	5-20	-
Cyclohex-1,2-ylendiamine	-	694-83-7/ 211-776-7	Acute Tox. 4;H302, H312, H332, Skin Corr. 1B;H314, Skin Sens. 1;H317, Eye Dam 1;H318, STOT SE 3;H335	5-20	-
2,2',2''-nitrilotriethanol	-	102-71-6/ -	-	<2	1

1 = The substance is an organic solvent.

See full text of H-phrases in section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation:	Seek fresh air. Keep victim under observation. Seek medical advice in case of discomfort.
Ingestion:	Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Do not induce vomiting. Seek medical advice immediately.
Skin contact:	Immediately remove contaminated clothing. Wash the skin thoroughly with water and continue washing for a long time. Seek medical advice immediately.
Eye contact:	Open eye wide, remove any contact lenses and flush immediately with water (preferably using eye wash equipment). Seek medical advice immediately. Continue flushing until medical attention is obtained.
Additional information:	When obtaining medical advice, show the safety data sheet or label. Symptoms: See section 11.

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

Harmful if swallowed.

Tissue damaging effects: This product contains substances which are corrosive. If vapour or aerosols are inhaled, it can result in damage to lungs, irritation and burns in the respiratory organs as well as coughing. Corrosive substances cause irreversible damage to eyes and acid burns to skin.

Sensitivity effects: This product contains substances which can give an allergic reaction on contact with skin. The allergic reaction will typically set in 12-72 hours after exposure as the substance penetrates the skin and reacts with proteins in the outer skin. The body's immune system sees the chemically changed protein as a foreign body and will try to destroy it.

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

If symptoms such as eczema, dyspnoea, burns or damage to eyes occurs, consult a doctor.

Show this safety data sheet to the doctor in attendance.

---

### **SECTION 5: Firefighting measures**

---

#### **5.1. Extinguishing media**

Extinguish with powder, foam, carbon dioxide or water mist. Do not use water stream, as it may spread the fire.

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

Avoid inhalation of vapour and fumes – seek fresh air. Product decomposes in fire conditions and toxic gases such as CO<sub>x</sub> may be released. Hazardous fumes are formed in fire conditions. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Use water to cool containers exposed to fire. Do not discharge water from fire protection system into sewerage system, streams, rivers, etc.

#### **5.3. Advice for firefighters**

Send contaminated extinguishing water for destruction. Extinguishing water which has been in contact with the product may be corrosive. If there is a risk of exposure to vapour and flue gases, a self-contained breathing apparatus must be worn. Fire fighters should wear appropriate protective equipment.

---

### **SECTION 6: Accidental release measures**

---

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

See section 8 for type of protective equipment. Avoid contact with skin and eyes.

#### **6.2. Environmental precautions**

Prevent spillage from entering drains and/or surface water - See section 12. Notify proper authorities in case of contamination of soil or aquatic environment or discharge to drains.

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

Contain and absorb spill with sand or other absorbent material and transfer to suitable waste containers. Caution! Causes burns. Rinse with water. See section 13 for instructions on disposal.

#### **6.4. Reference to other sections**

See above.

---

### **SECTION 7: Handling and storage**

---

#### **7.1. Precautions for safe handling**

See section 8 for information about precautions for use and personal protective equipment. The product should be used under well-ventilated conditions. Running water and eye wash equipment must be available.

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

The product should be stored safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Keep in tightly closed original packaging. Store in a dry, cool, well-ventilated area.

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

See section 1.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Occupational exposure limits according to EH40/2005 Workplace exposure limits (Third edition, 2018): -

#### DNEL and PNEC values:

DNEL – Benzyl alcohol:

##### Workers

Inhalation - Chronic Systemic	22 mg/m <sup>3</sup>
Inhalation - Acute Systemic	110 mg/m <sup>3</sup>
Dermal - Chronic Systemic	8 mg/kg bw/day
Dermal - Acute Systemic	40 mg/kg bw/day

##### Consumers

Inhalation - Chronic Systemic	5.4 mg/m <sup>3</sup>
Inhalation - Acute Systemic	27 mg/m <sup>3</sup>
Dermal - Chronic Systemic	4 mg/kg bw/day
Dermal - Acute Systemic	20 mg/kg bw/day
Oral - Chronic Systemic	4 mg/kg bw/day
Oral - Acute Systemic	20 mg/kg bw/day

DNEL – 3-Aminomethyl-3,5,5-trimethylcyclohexylamine:

##### Workers

Inhalation - Chronic Local	0.073 mg/m <sup>3</sup>
Inhalation - Acute Local	0.073 mg/m <sup>3</sup>

##### Consumers

Oral - Chronic Systemic	0.526 mg/kg bw/day
-------------------------	--------------------

DNEL – Cyclohex-1,2-ylendiamine:

##### Workers

Inhalation - Chronic Local	0.25 mg/m <sup>3</sup>
Inhalation - Acute Local	0.5 mg/m <sup>3</sup>

##### Consumers

Inhalation - Chronic Local	0.125 mg/m <sup>3</sup>
Inhalation - Acute Local	0.25 mg/m <sup>3</sup>
Dermal - Chronic Systemic	0.75 mg/kg bw/day
Oral - Chronic Systemic	0.75 mg/kg bw/day

DNEL – 2,2',2''-nitrilotriethanol:

##### Workers

Inhalation - Chronic Systemic	5 mg/m <sup>3</sup>
Inhalation - Chronic Local	5 mg/m <sup>3</sup>
Dermal - Chronic Systemic	6.3 mg/kg bw/day

##### Consumers

Inhalation - Chronic Systemic	1.25 mg/m <sup>3</sup>
Inhalation - Chronic Local	1.25 mg/m <sup>3</sup>
Dermal - Chronic Systemic	3.1 mg/kg bw/day
Oral - Chronic Systemic	13 mg/kg bw/day

PNEC – Benzyl alcohol:

Fresh water	1 mg/L
Intermittent releases (Fresh water)	2.3 mg/L
Marine water	0.1 mg/L
Soil	0.456 mg/kg soil dw

PNEC – 3-Aminomethyl-3,5,5-trimethylcyclohexylamine:

Fresh water	0.06 mg/L
Intermittent releases (Fresh water)	0.23 mg/L
Marine water	0.006 mg/L
Soil	1.121 mg/kg soil dw

**PNEC – Cyclohex-1,2-ylendiamine:**

Fresh water	0.42 mg/L
Intermittent releases (Fresh water)	0.42 mg/L
Marine water	0.042 mg/L
Soil	0.117 mg/kg soil dw

**PNEC – 2,2',2''-nitrilotriethanol:**

Fresh water	0.32 mg/L
Intermittent releases (Fresh water)	5.12 mg/L
Marine water	0.032 mg/L
Soil	0.151 mg/kg soil dw

**8.2. Exposure controls**

There are no exposure scenarios for this product.

**Appropriate engineering controls:**

Wash hands before breaks, before using restroom facilities, and at the end of the work. Wear the personal protective equipment specified below. Do not eat, drink or smoke when using this product.

**Personal protective equipment:**



Respiratory protection:	Not required.
Hand protection:	Wear protective gloves made of nitrile rubber.
Eye/face protection:	Wear safety goggles/face protection.
Skin protection:	Wear suitable protective clothing.

**Environmental exposure controls:**

Make sure that when using the product damming material is available in immediate vicinity. If possible use spillage tray during work..

---

**SECTION 9: Physical and chemical properties**


---

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

Appearance:	Colourless liquid
Odour:	Amine odour
Odour threshold:	-
pH:	12
Melting point/ Freezing Point (°C):	<0
Initial boiling point and boiling range (°C):	>260
Flash point (°C):	120
Evaporation rate:	-
Flammability (solid, gas)	-
Upper / lower flammability or explosion limits (vol-%):	-
Vapour pressure (mbar, 25 °C):	<0,02
Vapour density (air=1)	-
Relative density:	1,10-1,15 g/cm <sup>3</sup> , 20 °C
Solubility(ies)	Delvist opløselig
Partition coefficient: n-octanol/water:	-
Auto-ignition temperature (°C):	360
Decomposition temperature (°C):	-
Viscosity (mm <sup>2</sup> /sek):	100-300
Explosive properties:	-
Oxidising properties:	-

**9.2. Other information**

Content of solids (%):	-
Surface tension (mN/m, 25 °C):	-

---

**SECTION 10: Stability and reactivity**


---

**10.1. Reactivity**

Non-reactive.

**10.2. Chemical stability**

The product is stable when used in accordance with the supplier's directions.

Hardening time for the product is 20-50 min. at 20 °C.

**10.3. Possibility of hazardous reactions**

None known.

**10.4. Conditions to avoid**

Avoid heating and contact with ignition sources.

**10.5. Incompatible materials**

Avoid contact with strong bases, strong acids, strong oxidising agents and strong reducing agents.

**10.6. Hazardous decomposition products**

Cured materials may decompose and release hazardous gases at temperatures above 150° C.

---

**SECTION 11: Toxicological information**


---

**11.1. Information on toxicological effects****Acute toxicity:** Harmful if swallowed.

Substance	Route of exposure	Species	Test	Result
Benzyl alcohol	Oral	Rat	LD50	1570 mg/kg bw
Benzyl alcohol	Inhalation	Rat	LC50 / 4 Hours	> 4178 mg/m <sup>3</sup> air
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	Oral	Rat	LD50	1030 mg/kg bw
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	Inhalation	Rat	LC50 / 4 Hours	> 5.01 mg/L air (analytical)
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	Dermal	Rat	LD50	> 2000 mg/kg bw
Cyclohex-1,2-ylendiamine	Oral	Rat	LD50	1170 mg/kg bw
Cyclohex-1,2-ylendiamine	Dermal	Rabbit	LD50	1870 mg/kg bw
2,2',2''-nitrilotriethanol	Oral	Rat	LD50	6400 mg/kg bw
2,2',2''-nitrilotriethanol	Inhalation	Rat	LC50 / 4 Hours	6400 mg/kg bw
2,2',2''-nitrilotriethanol	Dermal	Rabbit	LD50	> 2000 mg/kg bw

**Skin corrosion/irritation:** Has a corrosive effect and causes burning pain, reddening, blisters and burns. May cause burns to mouth, gullet and stomach. Pains in mouth, throat and stomach. Difficulty in swallowing, indisposition and bloody vomit. Brown spots and burns may appear in and around the mouth.

**Serious eye damage/irritation:** May cause severe burns, pain, tearing and cramp of the eyelids. Risk of serious damage to eyes and loss of vision.

**Respiratory or skin sensitisation:** May cause sensitization by skin contact. Symptoms include reddening, swelling, blistering and ulceration – often slowly developing.

**Germ cell mutagenicity:** Based on the existing data, the classification is not met.

**Carcinogenicity:** Based on the existing data, the classification is not met.

**Reproductive toxicity:** Based on the existing data, the classification is not met.

**STOT-single exposure:** The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication.

**STOT-repeated exposure:** Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system.

**Aspiration hazard:** Based on the existing data, the classification is not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Substance	Test duration	Species	Test	Result
Benzyl alcohol	48 Hours	Fish	LC50	770 mg/L
Benzyl alcohol	48 Hours	Daphnia	EC50	230 mg/L
Benzyl alcohol	72 Hours	Algae	EC50	500 mg/L
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	96 Hours	Fish	LC50	110 mg/L
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	48 Hours	Daphnia	EC50	23 mg/L
Cyclohex-1,2-ylendiamine	96 Hours	Fish	LC50	1 825 mg/L
Cyclohex-1,2-ylendiamine	48 Hours	Daphnia	EC50	23.4 mg/L
Cyclohex-1,2-ylendiamine	72 Hours	Algae	EC50	> 100 mg/L
2,2',2''-nitrilotriethanol	96 Hours	Fish	LC50	11800 mg/L
2,2',2''-nitrilotriethanol	48 Hours	Daphnia	EC50	609.88 mg/L
2,2',2''-nitrilotriethanol	72 Hours	Algae	EC50	216 mg/L

### 12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
Benzyl alcohol	Yes	OECD Guideline 301 D	14 days: 92-96 %
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	No	EU Method C.4-A	28 days: 8%
Cyclohex-1,2-ylendiamine	Yes	OECD Guideline 301 D	28 days: 101%

### 12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	BCF
Benzyl alcohol	No	1.1	-
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	No	0.99	-
Cyclohex-1,2-ylendiamine	No	< -0.9	-
2,2',2''-nitrilotriethanol	No	1.9	-

### 12.4. Mobility in soil

Test data are not available.

### 12.5. Results of PBT and vPvB assessment

The mixture does not meet the criteria for PBT or vPvB.

### 12.6. Other adverse effects

Harmful to aquatic life with long lasting effects.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

The product is covered by the regulations on dangerous waste. Collect spills and waste in closed, leak-proof containers for disposal at the local hazardous waste site.

**EWC Code**

08 01 11

### Specific labelling

-

**Contaminated packaging:**

Uncleansed packaging is to be disposed of via the local waste-removal scheme.

---

**SECTION 14: Transport information**

---

The product is not covered by the rules for transport of dangerous goods by road and sea according to ADR and IMDG.

**14.1 -14.4.**

ADR

UN number	UN proper shipping name	Transport hazard class(es)	Packing group
2735	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3-Aminomethyl-3,5,5-trimethylcyclohexylamine Cyclohex-1,2-ylendiamine)	8	III

IMDG

UN-no.:	Proper shipping name	Transport hazard class(es)	Packing group
2735	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3-Aminomethyl-3,5,5-trimethylcyclohexylamine Cyclohex-1,2-ylendiamine)	8	III

**14.5. Environmental hazards**

-

**14.6. Special precautions for user**

-

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant.

---

**SECTION 15: Regulatory information**

---

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

-

**Restrictions for application:**

Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product. Young people above 15 years are exempted this rule, if the product is a part of an education/training.

**Demands for specific education:**

-

**Additional labelling:**

-

**15.2. Chemical safety assessment**

Chemical safety assessment has not been performed.

---

**SECTION 16: Other information**

---

**Other information:**

**Sources:**

EC regulation 1907/2006 (REACH).

Directive 2000/532/EC.

EC Regulation 1272/2008 (CLP).

EH40/2005 Workplace exposure limits (Third edition, 2018).

**Full text of H-phrases as mentioned in section 2+3:**

H302 - Harmful if swallowed.

H312 - Harmful in contact with skin.

H314 - Causes severe skin burns and eye damage.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H319 - Causes serious eye irritation.

H332 - Harmful if inhaled.

H335 - May cause respiratory irritation.

H412 - Harmful to aquatic life with long lasting effects.

<b>Classification according to Regulation (EC) Nr. 1272/2008:</b>	
Acute Tox. 4;H302	Calculation method
Skin Corr. 1A;H314	Calculation method
Skin Sens. 1;H317	Calculation method
Aquatic Chronic 3;H412	Calculation method

**Abbreviations and acronyms used in the safety data sheet:**

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals. Regulation (EC) No 1907/2006.

CLP: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.

CAS-Number.: Chemical Abstracts Service number.

EC-Number.: EINECS and ELINCS Number (see also EINECS and ELINCS).

DNEL: Derived No Effect Level.

PNEC(s): Predicted No Effect Concentration(s).

STOT: Specific Target Organ Toxicity.

LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).

LC50: Lethal Concentration to 50 % of a test population.

EC50: The effective concentration of substance that causes 50% of the maximum response.

PBT: Persistent, Bioaccumulative and Toxic.

vPvB: Very Persistent and Very Bioaccumulative.

**Other**

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

**Minor changes have been made in following sections:**

-

**This material safety data sheet replaces version:**

-

---