

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

#### 1.1. Product identifier

Trade name : Perma Evolution Component A1  
Type of product : Medical device

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Use of the substance/mixture : Manufacture of medical and dental instruments and supplies  
Root filling material based on epoxy resin for permanent root fillings.

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

Alfred Becht GmbH  
Carl-Zeiss-Str. 16  
P.O. Box 1145  
77656 Offenburg  
T +49 781 60586-0 - F +49 781 60586-40

##### Email competent person

sds@kft.de

#### 1.4. Emergency telephone number

Emergency number : National Poison Information Service (NPIS)  
24 hour national number professionals only  
0844 892 0111  
  
National Health Service (NHS)  
24 hour national number consumer  
England and Scotland: 111  
Wales: 0845 46 47  
Northern Ireland: call your local General Practitioner  
  
Call 999 if there is a life-threatening incident.

### SECTION 2: Hazards identification

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

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Acute toxicity (inhalation:dust,mist) Category 4	H332
Skin corrosion/irritation, Category 1A	H314
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H statements : see section 16

##### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Harmful if inhaled. May cause respiratory irritation. Causes serious eye damage. May cause an allergic skin reaction. Causes severe skin burns and eye damage.

#### 2.2. Label elements

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### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS02

GHS05

GHS07

Signal word (CLP)

: Danger

Hazardous ingredients

: diethylamine; 2,2'-iminodiethylamine; 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.  
H314 - Causes severe skin burns and eye damage.  
H317 - May cause an allergic skin reaction.  
H332 - Harmful if inhaled.  
H335 - May cause respiratory irritation.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 - Do not breathe mist, vapours, spray.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a POISON CENTER, a doctor.  
P403+P235 - Store in a well-ventilated place. Keep cool.

### 2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Barium sulfate substance with national workplace exposure limit(s) (GB)	(CAS-No.) 7727-43-7 (EC-No.) 231-784-4	>=25 - <50	Not classified
2-[1-[2-(oxiran-2-ylmethoxy)propoxy]propan-2-ylloxymethyl]oxirane	(CAS-No.) 41638-13-5 (EC-No.) 609-948-5	>=20 - <25	Eye Irrit. 2, H319
diethylamine	(CAS-No.) 109-89-7 (EC-No.) 203-716-3 (EC Index-No.) 612-003-00-X	>=5 - <10	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation:vapour), H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335
3-aminomethyl-3,5,5-trimethylcyclohexylamine	(CAS-No.) 2855-13-2 (EC-No.) 220-666-8 (EC Index-No.) 612-067-00-9	>=5 - <10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
2,2'-iminodiethylamine	(CAS-No.) 111-40-0 (EC-No.) 203-865-4 (EC Index-No.) 612-058-00-X (REACH-no) 01-2119473793-27-xxxx	>=2.5 - <5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT SE 3, H335

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polyhexamethylene biguanide hydrochloride; PHMB	(CAS-No.) 27083-27-8 (EC-No.) 608-042-7 (EC Index-No.) 616-207-00-X	< 0.1	Carc. 2, H351 Acute Tox. 2 (Inhalation), H330 Acute Tox. 4 (Oral), H302 STOT RE 1, H372 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
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### Specific concentration limits:

Name	Product identifier	Specific concentration limits
diethylamine	(CAS-No.) 109-89-7 (EC-No.) 203-716-3 (EC Index-No.) 612-003-00-X	( 1 =<C < 100) STOT SE 3, H335

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Strong water jet.

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

Fire hazard	: Highly flammable liquid and vapour.
Explosion hazard	: Explosive vapour/air mixtures may be formed.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon dioxide. Carbon monoxide. Nitrogen oxides. Silicon oxide. Sulphur oxides.

### 5.3. Advice for firefighters

Firefighting instructions	: Protect container with water spray.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

## SECTION 6: Accidental release measures

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

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### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe mist, vapours, spray.

### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid sub-soil penetration. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

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

Methods for cleaning up : Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Notify authorities if product enters sewers or public waters.

Other information : Disposal must be done according to official regulations.

### 6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : In use, may form flammable vapour-air mixture.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe mist, vapours, spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Heat and ignition sources : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from heat and direct sunlight.

Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Barium sulfate (7727-43-7)</b>	
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Barium sulphate
WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> inhalable dust 4 mg/m <sup>3</sup> respirable dust
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
<b>diethylamine (109-89-7)</b>	
<b>EU - Occupational Exposure Limits</b>	
Local name	Diethylamine
IOELV TWA (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>

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<b>diethylamine (109-89-7)</b>	
IOELV TWA (ppm)	5 ppm
IOELV STEL (mg/m <sup>3</sup> )	30 mg/m <sup>3</sup>
IOELV STEL (ppm)	10 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Diethylamine
WEL TWA (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
WEL TWA (ppm)	5 ppm
WEL STEL (mg/m <sup>3</sup> )	30 mg/m <sup>3</sup>
WEL STEL (ppm)	10 ppm
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
<b>2,2'-iminodiethylamine (111-40-0)</b>	
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	2,2'-Iminodi(ethylamine)
WEL TWA (mg/m <sup>3</sup> )	4.3 mg/m <sup>3</sup>
WEL TWA (ppm)	1 ppm
Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
<b>diethylamine (109-89-7)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - local effects, inhalation	30 mg/m <sup>3</sup>
Long-term - local effects, inhalation	15 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.04 mg/l
PNEC aqua (marine water)	0.004 mg/l
PNEC aqua (intermittent, freshwater)	0.046 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	0.48 mg/kg dwt
PNEC sediment (marine water)	0.048 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.072 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	100 mg/l
<b>3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - local effects, inhalation	0.073 mg/m <sup>3</sup>
Long-term - local effects, inhalation	0.073 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	0.526 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.06
PNEC aqua (marine water)	0.006
PNEC aqua (intermittent, freshwater)	0.23

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<b>3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)</b>	
PNEC aqua (intermittent, marine water)	0.23 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	5.784 mg/kg dwt
PNEC sediment (marine water)	0.578 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	1.121 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	3.18 mg/l
<b>2,2'-iminodiethylamine (111-40-0)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	92.1 mg/m <sup>3</sup>
Acute - local effects, inhalation	2.6 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	11.4 mg/kg bodyweight/day
Long-term - local effects, dermal	1.1 mg/cm <sup>2</sup>
Long-term - systemic effects, inhalation	15.4 mg/m <sup>3</sup>
Long-term - local effects, inhalation	0.87 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	4.88 mg/kg bodyweight/day
Acute - systemic effects, inhalation	27.5 mg/m <sup>3</sup>
Long-term - systemic effects, inhalation	4.6 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	4.88 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.56 mg/l
PNEC aqua (marine water)	0.056 mg/l
PNEC aqua (intermittent, freshwater)	0.32 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	107.2 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	7.97 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	6 mg/l

## 8.2. Exposure controls

### Appropriate engineering controls:

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

### Hand protection:

In case of repeated or prolonged contact wear gloves. Chemically resistant protective gloves. EN 374. Nitrile rubber. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

### Eye protection:

Wear closed safety glasses. EN 166. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure

### Skin and body protection:

Wear suitable protective clothing. EN 340. EN 13034

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### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. EN 143. Short term exposure. Breathing apparatus with filter. P2. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust

### Environmental exposure controls:

Avoid release to the environment.

### Other information:

The above mentioned instructions regarding the protective equipment refer to the industrial use of larger quantities. Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Always wash hands after handling the product.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Paste.
Colour	: yellowish.
Odour	: Amine-like.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.53 - 1.87 g/cm <sup>3</sup>
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive. Explosive vapour/air mixtures may be formed.
Oxidising properties	: Non oxidizing.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Highly flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

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### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (inhalation) : Harmful if inhaled.

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ATE CLP (oral)	> 2000 mg/kg bodyweight
ATE CLP (dermal)	> 2000 mg/kg bodyweight
ATE CLP (dust,mist)	1.864 mg/l/4h

diethylamine (109-89-7)	
LD50 oral rat	540 mg/kg bodyweight (OECD 401 method)
LD50 dermal rabbit	582 mg/kg bodyweight
LC50 inhalation rat (Vapours - mg/l/4h)	17.3 mg/l/4h (OECD 403 method)

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
LD50 oral rat	1030 mg/kg bodyweight (male; eq. (OECD 401 method))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 5.01 mg/l/4h (OECD 403 method)

2,2'-iminodiethylamine (111-40-0)	
LD50 oral rat	1553 mg/kg
LD50 dermal rabbit	1090 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.07 mg/l/4h

polyhexamethylene biguanide hydrochloride; PHMB (27083-27-8)	
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.37 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
Serious eye damage/irritation : Causes serious eye damage.  
Respiratory or skin sensitisation : May cause an allergic skin reaction.  
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)  
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)  
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)  
STOT-single exposure : May cause respiratory irritation.  
STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)  
Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.  
Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)  
Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	
LC50 fish 1	110 mg/l (96h; Leuciscus idus (golden orfe); EU Method C.1)



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EC50 Daphnia 1	23 mg/l (48h; Daphnia magna; (OECD 202 method))
EC50 72h algae	37 mg/l (72h; Desmodesmus subspicatus; EU Method C.3)
ErC50 (algae)	37 mg/l (72h; Desmodesmus subspicatus; EU Method C.3)
NOEC chronic crustacea	3 mg/l (21d; Daphnia magna)

### polyhexamethylene biguanide hydrochloride; PHMB (27083-27-8)

LC50 fish 1	0.026 mg/l (96 h; Oncorhynchus mykiss)
EC50 Daphnia 1	0.09 mg/l (48 h; Daphnia magna; (OECD 202 method))
ErC50 (algae)	0.0191 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method))

## 12.2. Persistence and degradability

### Barium sulfate (7727-43-7)

Persistence and degradability	Not applicable.
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### diethylamine (109-89-7)

Persistence and degradability	Readily biodegradable.
Biodegradation	68 - 70 % (28 d, (OECD 301C method))

### 3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)

Persistence and degradability	Not readily biodegradable.
Biodegradation	8 % (28d; EU Method C.4-A)

### 2,2'-iminodiethylamine (111-40-0)

Persistence and degradability	Readily biodegradable.
Biodegradation	87 % (21 d; (OECD 301D method))

### polyhexamethylene biguanide hydrochloride; PHMB (27083-27-8)

Persistence and degradability	Not readily biodegradable.
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## 12.3. Bioaccumulative potential

### diethylamine (109-89-7)

Bioconcentration factor (BCF REACH)	1.62
Log Pow	0.58 (25 °C)

### 3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)

Log Pow	0.99 (OECD 107 method)
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### polyhexamethylene biguanide hydrochloride; PHMB (27083-27-8)

Bioaccumulative potential	Bioaccumulation unlikely.
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## 12.4. Mobility in soil

### polyhexamethylene biguanide hydrochloride; PHMB (27083-27-8)

Ecology - soil	Adsorbs into the soil.
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## 12.5. Results of PBT and vPvB assessment

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PBT: not relevant – no registration required
vPvB: not relevant – no registration required

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Component	
diethylamine (109-89-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2,2'-iminodiethylamine (111-40-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Barium sulfate (7727-43-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
3-aminomethyl-3,5,5-trimethylcyclohexylamine (2855-13-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Disposal must be done according to official regulations. European waste catalogue. Do not discharge into drains or the environment. Do not dispose of with domestic waste.
Product/Packaging disposal recommendations	: Recycle or dispose of in compliance with current legislation.
Additional information	: Flammable vapours may accumulate in the container.
HP Code	: HP3 - "Flammable:" — flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C; — flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air; — flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction; — flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa; — water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities; — other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste. HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP8 - "Corrosive:" waste which on application can cause skin corrosion. HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN






ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
UN 2920	UN 2920	UN 2920	UN 2920	UN 2920
<b>14.2. UN proper shipping name</b>				
CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine)	Corrosive liquid, flammable, n.o.s. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine)	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
<b>Transport document description</b>				
UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8 (3), I, (D/E)	UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8 (3), I	UN 2920 Corrosive liquid, flammable, n.o.s. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8 (3), I	UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8 (3), I	UN 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S. (diethylamine ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8 (3), I

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### 14.3. Transport hazard class(es)

8 (3)	8 (3)	8 (3)	8 (3)	8 (3)
				

### 14.4. Packing group

I	I	I	I	I
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### 14.5. Environmental hazards

Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
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No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) : CF1  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Transport category (ADR) : 1  
Hazard identification number (Kemler No.) : 883  
Orange plates :



Tunnel restriction code (ADR) : D/E  
EAC code : •3W  
APP code : A(fl)

#### Transport by sea

Special provisions (IMDG) : 274  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-C  
Stowage and handling (IMDG) : SW1, SW2

#### Air transport

PCA Excepted quantities (IATA) : E0  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : 850  
PCA max net quantity (IATA) : 0.5L  
CAO max net quantity (IATA) : 2.5L

#### Inland waterway transport

Classification code (ADN) : CF1  
Special provisions (ADN) : 274  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0

#### Rail transport

Classification code (RID) : CF1  
Special provisions (RID) : 274  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Transport category (RID) : 1  
Hazard identification number (RID) : 883

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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Not applicable

### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:	
Reference code	Applicable on
3(a)	Perma Evolution Component A1 ; diethylamine
3(b)	Perma Evolution Component A1 ; diethylamine ; 2,2'-iminodiethylamine ; 2-[1-[2-(oxiran-2-ylmethoxy)propoxy]propan-2-ylloxymethyl]oxirane ; 3-aminomethyl-3,5,5-trimethylcyclohexylamine
3(c)	3-aminomethyl-3,5,5-trimethylcyclohexylamine
40.	Perma Evolution Component A1 ; diethylamine

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations : Take note of Directive 94/33/EC on the protection of young people at work.

Directive 2012/18/EU (SEVESO III)

Seveso III Part I (Categories of dangerous substances)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
P5c FLAMMABLE LIQUIDS Flammable liquids, Categories 2 or 3 not covered by P5a and P5b	5000	50000

##### 15.1.2. National regulations

No additional information available

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration

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NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Data sources : Information provided by the manufacturer. MSDSs of the suppliers.

Department issuing data specification sheet: : KFT Chemieservice GmbH  
Im Leuschnerpark. 3 64347 Griesheim  
Germany

Phone: +49 6155-8981-400 Fax: +49 6155 8981-500  
Safety Data Sheet Service: +49 6155 8981-522

Contact person : Katharina Rieker

Full text of H- and EUH-statements:	
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

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H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Flam. Liq. 2	H225	Calculation method
Acute Tox. 4 (Inhalation:dust,mist)	H332	Calculation method
Skin Corr. 1A	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method

KFT SDS EU 00

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*