

**Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2015/830



Article No.: 2 05603 AN000 epple 5603-neu  
Print date 11.04.2022 Revision date 12.01.2022  
Version 1.3 Issue date 12.01.2022

EN  
Page 1 / 9

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

**1.1. Product identifier**

Article No. (manufacturer/supplier): 2 05603 AN000  
Trade name/designation epple 5603-neu  
Klebstoff  
Komponente A

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

**Relevant identified uses:**

Adhesive for the gluing of most diverse substrates.

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

**supplier (manufacturer/importer/downstream user/distributor)**

E. Epple & Co. GmbH  
Hertzstr. 8  
71083 Herrenberg

Telephone: +49 7032 / 9771-17  
Telefax: +49 7032 / 9771-60  
www.epple-chemie.de

**Department responsible for information:**

laboratory

E-mail (competent person)

labor@epple-chemie.de

**1.4. Emergency telephone number**

Information center against poisoning Bonn

+49 (0) 228 / 19 240 (Advice in German)

**SECTION 2: Hazards identification**

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

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.

**2.2. Label elements**

The product is classified and labelled according to EC directives or corresponding national laws.

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

**Hazard pictograms**



**Warning**

**Hazard statements**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P261 Avoid breathing vapours.  
P273 Avoid release to the environment.  
P280 Wear protective gloves.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P501 Dispose of contents/container to industrial incineration plant.

**Hazard components for labelling**

4,4'-methylene diphenyl diglycidyl ether  
1,6-hexanediol diglycidyl ether

**Supplemental hazard information**

EUH205 Contains epoxy constituents. May produce an allergic reaction.

**2.3. Other hazards**

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

**Description** epoxy resin on bisphenol A-epoxide base

#### Hazardous ingredients

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

EC No.	REACH No.	weight-%
CAS No.	Designation	
Index No.	classification: // Remark	
216-823-5	01-2119456619-26	
1675-54-3	4,4'-methylene diphenyl diglycidyl ether	74,9 - 100
603-073-00-2	Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Skin Sens. 1 H317 / Aquatic Chronic 2 H411 Specific concentration limit (SCL): Eye Irrit. 2 H319 >= 5 / Skin Irrit. 2 H315 >= 5	
240-260-4	01-2119463471-41	
16096-31-4	1,6-hexanediol diglycidyl ether	2,4 - 9,9
	Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Skin Sens. 1 H317 / Aquatic Chronic 3 H412	

#### Additional information

Full text of classification: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

##### In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

##### Following skin contact

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

##### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

##### Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

First Aid, decontamination, treatment of symptoms.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

##### Unsuitable extinguishing media

strong water jet

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

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

### 5.3. Advice for firefighters

Provide a conveniently located respiratory protective device. Do not allow water used to extinguish fire to enter drains, ground or waterways. Cool closed containers that are near the source of the fire.

## SECTION 6: Accidental release measures

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

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

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

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Clean using cleansing agents. Do not use solvents.

### 6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advices on safe handling

Avoid contact with skin, eyes and clothes. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Follow the legal protection and safety regulations.

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

#### Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

#### Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers.

#### Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 5 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

### 7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limit values

not applicable

#### DNEL:

4,4'-methylene diphenyl diglycidyl ether

Index No. 603-073-00-2 / EC No. 216-823-5 / CAS No. 1675-54-3

DNEL acute dermal, short-term (systemic), Workers: 8,3 mg/kg bw/day

DNEL long-term dermal (systemic), Workers: 8,3 mg/kg bw/day

DNEL acute inhalative (systemic), Workers: 12,3 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Workers: 12,3 mg/m<sup>3</sup>

1,6-hexanediol diglycidyl ether

EC No. 240-260-4 / CAS No. 16096-31-4

DNEL acute dermal, short-term (local), Workers: 0,0226 mg/cm<sup>2</sup>

DNEL long-term dermal (systemic), Workers: 2,8 mg/kg bw/day

DNEL long-term inhalative (systemic), Workers: 0,44 mg/m<sup>3</sup>

#### PNEC:

4,4'-methylene diphenyl diglycidyl ether

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Article No.: 2 05603 AN000 epple 5603-neu  
Print date 11.04.2022 Revision date 12.01.2022  
Version 1.3 Issue date 12.01.2022

EN  
Page 4 / 9

Index No. 603-073-00-2 / EC No. 216-823-5 / CAS No. 1675-54-3

PNEC aquatic, freshwater: 3 µg/L  
PNEC aquatic, marine water: 0,3 µg/L  
PNEC aquatic, intermittent release: 0,013 mg/L  
PNEC sediment, freshwater: 0,5 mg/kg dw  
PNEC sediment, marine water: 0,5 mg/kg dw  
PNEC, soil: 0,05 mg/kg dw  
PNEC sewage treatment plant (STP): 10 mg/L

1,6-hexanediol diglycidyl ether

EC No. 240-260-4 / CAS No. 16096-31-4

PNEC aquatic, freshwater: 0,0115 mg/L  
PNEC aquatic, marine water: 0,0011 mg/L  
PNEC aquatic, intermittent release: 0,115 mg/L  
PNEC sediment, freshwater: 0,283 mg/kg  
PNEC sediment, marine water: 0,0283 mg/kg  
PNEC, soil: 0,223 mg/kg  
PNEC sewage treatment plant (STP): 1 mg/L

## 8.2. Exposure controls

### Personal protection equipment

#### **Respiratory protection**

Recommendation: full mask / half mask / filtering half mask. Type A / B class 1/2 Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

#### **Hand protection**

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### **Eye/face protection**

Wear closely fitting protective glasses in case of splashes.

#### **Body protection**

#### **Protective measures**

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

#### Environmental exposure controls

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

## **SECTION 9: Physical and chemical properties**

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

#### **Appearance:**

**Appearance:** Liquid  
**Colour:** colourless

**Odour:** characteristic

**Odour threshold:** not applicable

**pH at 20 °C:** not relevant

**Initial boiling point and boiling range:** not applicable

**Flash point:** > 200 °C

**Evaporation rate:** not applicable

#### **flammability**

**Burning time:** not applicable

#### **Upper/lower flammability or explosive limits:**

**Lower explosion limit:** not applicable

**Upper explosion limit:** not applicable

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according to Regulation (EU) 2015/830



Article No.: 2 05603 AN000 epple 5603-neu  
Print date 11.04.2022 Revision date 12.01.2022  
Version 1.3 Issue date 12.01.2022

EN  
Page 5 / 9

**Vapour pressure at 20 °C:** not applicable  
**Vapour density:** not applicable  
**Relative density:**  
**Density at 20 °C:** 1,15 g/cm<sup>3</sup>  
**Solubility(ies):**  
**Water solubility at 20 °C:** insoluble  
**Partition coefficient: n-octanol/water:** see section 12  
**Auto-ignition temperature:** not applicable  
**Decomposition temperature:** not applicable  
**Viscosity at °C:** 36 - 54 Pa\*s  
**Explosive properties:** not applicable  
**Oxidising properties:** not applicable

9.2. **Other information**

**Solvent separation test:** < 3 weight-% (ADR/RID)

**SECTION 10: Stability and reactivity**

10.1. **Reactivity**

No information available.

10.2. **Chemical stability**

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

10.3. **Possibility of hazardous reactions**

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

10.4. **Conditions to avoid**

Hazardous decomposition byproducts may form with exposure to high temperatures.

10.5. **Incompatible materials**

not applicable

10.6. **Hazardous decomposition products**

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

**SECTION 11: Toxicological information**

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

11.1. **Information on toxicological effects**

**Acute toxicity**

4,4'-methylene diphenyl diglycidyl ether

oral, LD50, Rat: > 2000 mg/kg

dermal, LD50, Rat: > 2000 mg/kg

Method: OECD 402

dermal, LD50, Rabbit: > 2000 mg/kg

1,6-hexanediol diglycidyl ether

oral, LD50, Rat: 3741 mg/kg

dermal, LD50, Rat: > 2000 mg/kg

inhalative (vapours), LC50, Rat: > 0,035 mg/L (4 h)

**Skin corrosion/irritation; Serious eye damage/eye irritation**

Causes skin irritation.

Causes serious eye irritation.

**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Based on available data, the classification criteria are not met.

**STOT-single exposure; 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.

**Practical experience/human evidence**

**Overall Assessment on CMR properties**

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

**Remark**

There is no information available on the preparation itself .

**SECTION 12: Ecological information**

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

Partition coefficient: n-octanol/water: Mixtures: Not applicable. Do not allow to enter into surface water or drains.

**12.1. Toxicity**

4,4'-methylene diphenyl diglycidyl ether

Fish toxicity, LC50: 1,3 mg/L (96 h)

Method: OECD 203

Daphnia toxicity, EC50: 2,1 mg/L (48 h)

Method: OECD 202

1,6-hexanediol diglycidyl ether

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 30 mg/L (96 h)

Daphnia toxicity, EC50, Daphnia magna (Big water flea): 47 mg/L (48 h)

**Long-term Ecotoxicity**

Toxic to aquatic life with long lasting effects.

4,4'-methylene diphenyl diglycidyl ether

Daphnia toxicity, NOEC: 0,3 mg/L (21 d)

Method: OECD 211

**12.2. Persistence and degradability**

There are no data available on the preparation/mixture itself.

4,4'-methylene diphenyl diglycidyl ether

Biodegradation: 5 % (28 d); Evaluation Not readily biodegradable (according to OECD criteria)

Method: OECD 301F

Biodegradation: 6 - 12 % (28 d); Evaluation Not readily biodegradable (according to OECD criteria)

Method: OECD 301B

1,6-hexanediol diglycidyl ether

: 47 % (28 d); Evaluation Not readily biodegradable (according to OECD criteria)

Method: OECD 301D

**12.3. Bioaccumulative potential**

1,6-hexanediol diglycidyl ether

Partition coefficient: n-octanol/water: 0,822

Method: OECD 107

**Bioconcentration factor (BCF)**

4,4'-methylene diphenyl diglycidyl ether

Bioconcentration factor (BCF): 3 - 31

1,6-hexanediol diglycidyl ether

Bioconcentration factor (BCF): < 100

**12.4. Mobility in soil**

Toxicological data are not available.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Other adverse effects**

No information available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

##### List of proposed waste codes/waste designations in accordance with EWC

080409\* Waste adhesives and sealants containing organic solvents or other dangerous substances

\*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

##### Appropriate disposal / Package Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

### SECTION 14: Transport information

#### 14.1. UN number

UN 3082

#### 14.2. UN proper shipping name

Land transport (ADR/RID):

Environmentally hazardous substance, liquid, n.o.s.  
(4,4'-methylene diphenyl diglycidyl ether)

Sea transport (IMDG):

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(4,4'-methylene diphenyl diglycidyl ether)

Air transport (ICAO-TI / IATA-DGR):

Environmentally hazardous substance, liquid, n.o.s.  
(4,4'-methylene diphenyl diglycidyl ether)

#### 14.3. Transport hazard class(es)

9

#### 14.4. Packing group

III

#### 14.5. Environmental hazards

Land transport (ADR/RID)

DANGEROUS FOR THE ENVIRONMENT

Marine pollutant

p / 4,4'-methylene diphenyl diglycidyl ether

#### 14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

##### Further information

##### Land transport (ADR/RID)

tunnel restriction code

-

in packages <= 5 litres

KEIN GUT DER KLASSE 9

##### Sea transport (IMDG)

EmS-No.

F-A, S-F

in packages <= 5 litres

NOT RESTRICTED 2.10.2.7

##### Air transport (ICAO-TI / IATA-DGR)

in packages <= 5 litres

NOT RESTRICTED

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

not applicable

### SECTION 15: Regulatory information

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

##### EU legislation



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Article No.: 2 05603 AN000 epple 5603-neu  
 Print date 11.04.2022 Revision date 12.01.2022  
 Version 1.3 Issue date 12.01.2022

EN  
 Page 8 / 9

**Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]**

VOC-value (in g/L): 0

**National regulations**

**Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.  
 Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

**Substance/product listed in the following inventories:**

AICS no informtion  
 DSL no information  
 IECSC listed  
 KECI listed  
 MITI no information  
 PICCS no information  
 TSCA no information

**15.2. Chemical Safety Assessment**

**For the following substances of this mixture a chemical safety assessment has been carried out:**

EC No. CAS No.	Designation	REACH No.
216-823-5 1675-54-3	4,4'-methylene diphenyl diglycidyl ether	01-2119456619-26
240-260-4 16096-31-4	1,6-hexanediol diglycidyl ether	01-2119463471-41

**SECTION 16: Other information**

**Full text of classification in section 3:**

Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.

**Classification procedure**

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Skin Irrit. 2	Skin corrosion/irritation	Calculation method.
Eye Irrit. 2	Serious eye damage/eye irritation	Calculation method.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
Aquatic Chronic 2	Hazardous to the aquatic environment	Calculation method.

**Abbreviations and acronyms**

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development



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Article No.: 2 05603 AN000 epple 5603-neu  
Print date 11.04.2022 Revision date 12.01.2022  
Version 1.3 Issue date 12.01.2022

EN  
Page 9 / 9

---

PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

**Abbreviations and acronyms**

n.a. = not applicable  
n.b. = not determined

**Further information**

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

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.