

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date

10.06.2010

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

Product Information

Catalogue No.: 822184
Product name: Tween® 20 for synthesis
Use of the Substance/Mixture: Chemical for synthesis
Regional representation: Merck Chemicals Ltd * Boulevard Industrial Park * Padge Road * Beeston * Nottingham * NG9 2JR * Tel. 01159 430840 * information@merckchem.co.uk.
Emergency telephone: +49 (0) 6151 722440
Responsible/issuing person: EQ-EPS * e-mail: prodsafe@merck.de

2. Hazards identification

This substance is not classified as dangerous according to European Union legislation.

3. Composition/information on ingredients

Formula: $C_{58}H_{114}O_{26}$ (Hill)
CAS-No.: 9005-64-5
Molar mass: 1.227,72 g/mol

4. First aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water.

After swallowing: make victim drink water (two glasses at the most). Consult doctor if feeling unwell.

5. Fire-fighting measures

Suitable extinguishing media

Water, Carbon dioxide (CO₂), Foam, Dry powder

Specific hazards during fire fighting

Combustible material, Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Catalogue No.: 822184
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6. Accidental release measures

Personal precautions

Do not breathe vapours, aerosols.

Environmental precautions

Do not empty into drains.

Methods for cleaning up

Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

7. Handling and storage

Handling

Advice on safe handling

Observe label precautions.

Storage

Further information on storage conditions

Tightly closed.

Store at +15°C to +25°C.

8. Exposure controls/personal protection

Contains no substances with occupational exposure limit values.

Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection

required when vapours/aerosols are generated.

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 30 min

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example. KCL 730 Camatril® -Velours (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Safety Data Sheet
according to Regulation (EC) No. 1907/2006

Catalogue No.: 822184
Product name: Tween® 20 for synthesis

Eye protection
Safety glasses

Hygiene measures
Change contaminated clothing. Wash hands after working with substance.

9. Physical and chemical properties

Form	liquid
Colour	yellow
Odour	odourless
pH	6 - 8 at 50 g/l 20 °C
Viscosity, dynamic	ca.400 mPa.s at 25 °C
Boiling point/boiling range	> 100 °C
Ignition temperature	no data available
Flash point	> 149 °C Method: DIN 51758
Oxidizing properties	no data available
Flammability	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	< 1,4 hPa at 20 °C
Relative vapour density	no data available
Density	1,1 g/cm ³ at 25 °C
Solubility/qualitative	no data available
Water solubility	at 25 °C soluble
Partition coefficient: n- octanol/water	no data available
Evaporation rate	no data available

Safety Data Sheet
according to Regulation (EC) No. 1907/2006

Catalogue No.: 822184
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10. Stability and reactivity

Conditions to avoid

Strong heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Materials to avoid

Violent reactions possible with:

Strong oxidizing agents

Hazardous decomposition products

no information available

Further information

Forms explosive mixtures with air on intense heating.

11. Toxicological information

Acute oral toxicity

LD50 rat

Dose: 38.900 mg/kg

(External MSDS)

Genotoxicity in vitro

Mutagenicity (mammal cell test):

Result: negative

(Lit.)

Ames test

Result: negative

(Lit.)

Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Further data:

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Ecotoxicity

Toxicity to fish

LC50

Species: *S.gairdnerii*

Dose: 216 mg/l

Exposure time: 96 h

(External MSDS)

Toxicity to daphnia and other aquatic invertebrates.

EC50

Species: *Daphnia*

Dose: > 10 mg/l

Exposure time: 48 h

(Lit.)

Safety Data Sheet
according to Regulation (EC) No. 1907/2006

Catalogue No.: 822184
Product name: Tween® 20 for synthesis

Toxicity to bacteria
EC50
Species: Bacteria
Dose: 146 - 774 mg/l
Exposure time: 5 min
(Lit.)

Persistence and degradability

Biodegradability
Result: Readily biodegradable.
97,2 %
Exposure time: 5 d
(External MSDS)

Additional ecological information

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Not classified as dangerous in the meaning of transport regulations.

15. Regulatory information

GHS-Labeling

Not a dangerous substance according to GHS.

CAS-No. 9005-64-5

Labelling according to EC Directives

The product does not need to be labelled in accordance with EC directives or respective national laws.

National legislation

Storage class VCI: 10 Combustible liquids not in Storage Class 3

Major Accident Hazard 96/82/EC Update: 2003
Legislation: Directive 96/82/EC does not apply

16. Other information

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.
