

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 31.08.2015

Version 8.8

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

### 1.1 Product identifier

Catalogue No.	802505
Product name	trans-Cinnamaldehyde for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	104-55-2

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

### 1.4 Emergency telephone number

Please contact the regional company representation in your country.

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Dermal, H312  
Skin irritation, Category 2, H315  
Eye irritation, Category 2, H319  
Skin sensitisation, Category 1, H317

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

Xn	Harmful	R21
Xi	Irritant	R38
Xi	Irritant	R36
Xi	Irritant	R43

For the full text of the R-phrases mentioned in this Section, see Section 16.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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## 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

*Precautionary statements*

Prevention

P280 Wear protective gloves.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

**Reduced labelling (≤125 ml)**

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H317 May cause an allergic skin reaction.

*Precautionary statements*

P280 Wear protective gloves.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

Contains: cinnamic aldehyde

CAS-No. 104-55-2

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	C <sub>6</sub> H <sub>5</sub> CH=CHCHO	C <sub>9</sub> H <sub>8</sub> O (Hill)
EC-No.	203-213-9	
Molar mass	132,16 g/mol	

**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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**Hazardous components (REGULATION (EC) No 1272/2008)**

*Chemical Name (Concentration)*

CAS-No.	Registration number	Classification
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cinnamic aldehyde (<= 100 % )		
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104-55-2	*)	
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Acute toxicity, Category 4, H312

Skin irritation, Category 2, H315

Eye irritation, Category 2, H319

Skin sensitisation, Category 1, H317

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Hazardous components (1999/45/EC)**

*Chemical Name (Concentration)*

CAS-No.	Classification
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cinnamic aldehyde (<= 100 % )	
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104-55-2	Xn, Harmful; Xn; R21
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	Xi, Irritant; Xi; R38
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	Xi, Irritant; Xi; R36
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	Xi, Irritant; Xi; R43
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For the full text of the R-phrases mentioned in this Section, see Section 16.

**3.2 Mixture**

Not applicable

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**SECTION 4. First aid measures**

**4.1 Description of first aid measures**

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

irritant effects, Allergic reactions, Diarrhoea

The following applies to aldehydes in general: irritations after contact with eyes and skin.

Mucosal irritations, coughing, and dyspnoea after inhalation.

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

No information available.

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**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Combustible.

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.

**5.3 Advice for firefighters**

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

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

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**SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

**6.4 Reference to other sections**

Indications about waste treatment see section 13.

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**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling**

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

*Storage conditions*

Tightly closed. Protected from light.

Recommended storage temperature see product label.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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**SECTION 8. Exposure controls/personal protection**

**8.1 Control parameters**

**8.2 Exposure controls**

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

**Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

*Eye/face protection*

Safety glasses

*Hand protection*

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 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 related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (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(>,<)> supplied by us and for the designated use. 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](http://www.kcl.de)).

*Other protective equipment*

protective clothing

*Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not let product enter drains.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	802505
Product name	trans-Cinnamaldehyde for synthesis

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**SECTION 9. Physical and chemical properties**

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

Form	oily to liquid
Colour	yellow
Odour	characteristic
Odour Threshold	No information available.
pH	No information available.
Melting point	-8 °C
Boiling point/boiling range	251 °C at 960 hPa
Flash point	138 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	< 0,1 hPa at 20 °C
Relative vapour density	4,6
Density	1,05 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	1 g/l at 27 °C soluble
Partition coefficient: n-octanol/water	log Pow: 1,82 (27 °C) (experimental) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	ca. 12,83 mPa.s at 27 °C

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	802505
Product name	trans-Cinnamaldehyde for synthesis

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Explosive properties	Not classified as explosive.
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Oxidizing properties	The substance or mixture is not classified as oxidizing.
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## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### 10.2 Chemical stability

Sensitivity to light  
Sensitive to air.

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:  
Oxidizing agents, Acids and bases

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*  
LD50 Rat: 2.220 mg/kg

(External MSDS)

Symptoms: Diarrhoea

*Acute inhalation toxicity*

Symptoms: Possible damages:, mucosal irritations

*Acute dermal toxicity*  
LD50 Rabbit: 1.260 mg/kg  
(ECHA)

absorption

*Skin irritation*

human

Result: Irritations

(IUCLID)

Causes skin irritation.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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*Eye irritation*

Humans

Result: Eye irritation

(ECHA)

Causes serious eye irritation.

*Sensitisation*

Patch test: human

Result: positive

(IUCLID)

May cause an allergic skin reaction.

*Germ cell mutagenicity*

*Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(ECHA)

*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

*Teratogenicity*

This information is not available.

*Specific target organ toxicity - single exposure*

This information is not available.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

## 11.2 Further information

The following applies to aldehydes in general: irritations after contact with eyes and skin.

Mucosal irritations, coughing, and dyspnoea after inhalation.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

No information available.

### 12.2 Persistence and degradability

*Biodegradability*

100 %; 28 d

OECD Test Guideline 301B

### 12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 1,82 (27 °C)

(experimental)

(Lit.) Bioaccumulation is not expected.



SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects**

*Additional ecological information*

Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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**SECTION 14. Transport information**

**Land transport (ADR/RID)**

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**Inland waterway transport (ADN)**

Not relevant

**Air transport (IATA)**

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

**Sea transport (IMDG)**

**14.1 - 14.6** Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

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**SECTION 15. Regulatory information**

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

*EU regulations*

Major Accident Hazard SEVESO III  
Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

*National legislation*

Storage class 10 - 13

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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**SECTION 16. Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

**Full text of R-phrases referred to under sections 2 and 3**

R21	Harmful in contact with skin.
R36	Irritating to eyes.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.

**Training advice**

Provide adequate information, instruction and training for operators.

**Labelling**

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

*Precautionary statements*

Prevention

P280 Wear protective gloves.


Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

P313 Get medical advice/ attention.

**Labelling (67/548/EEC or 1999/45/EC)**

*Symbol(s)*  Xn Harmful

*R-phrases* 21-36-38-43 Harmful in contact with skin. Irritating to eyes. Irritating to skin. May cause sensitisation by skin contact.

*S-phrases* 24/25-36/37 Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.


EC-No. 203-213-9

**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006

Catalogue No. 802505  
Product name trans-Cinnamaldehyde for synthesis

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**Reduced labelling (≤125 ml)**

Symbol(s)  Xn

Harmful

R-phrases 21-43

S-phrases 24/25-36/37

Harmful in contact with skin. May cause sensitisation by skin contact.  
Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

Contains: cinnamic aldehyde

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

**Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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