

Safety data sheet

Page: 1/16

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 26.09.2016

Version: 7.0

Product: **Citral N**

(ID no. 30035011/SDS_GEN_EU/EN)

Date of print 27.09.2016

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

1.1. Product identifier

Citral N

Chemical name: citral

INDEX-Number: 605-019-00-3

CAS Number: 5392-40-5

REACH registration number: 01-2119462829-23-0000

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

Relevant identified uses: Chemical, Chemical for detergents, Chemical for soaps, detergents and cosmetic

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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

Skin Corr./Irrit. 2

Eye Dam./Irrit. 2

Skin Sens. 1

H319, H315, H317

According to BASF current knowledge and application of the criteria given in Annex I of Regulation (EC) No. 1272/2008, the following classification exceeding the classification given in Regulation (EC) No 1272/2008, Annex VI, Table 3.1 is required.

Skin Corr./Irrit. 2

Eye Dam./Irrit. 2

Skin Sens. 1B

H319, H315, H317

According to Directive 67/548/EEC or 1999/45/EC

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

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

Pictogram:



Signal Word:

Warning

Hazard Statement:

H319

Causes serious eye irritation.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

Precautionary Statements (Prevention):

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

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P280	Wear protective gloves and eye/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P311	If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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According to BASF current knowledge and application of the criteria given in Annex I, Regulation (EC) No 1272/2008 [CLP]

Pictogram:



Signal Word:

Warning

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
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Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

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

Hazard determining component(s) for labelling: 3,7-DIMETHYL-2,6-OCTADIEN-1-AL

2.3. Other hazards

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

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

citral

CAS Number: 5392-40-5
EC-Number: 226-394-6
INDEX-Number: 605-019-00-3

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Immediately remove contaminated clothing. If adverse health effects develop seek medical attention.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide

The substances/groups of substances mentioned can be released in case of fire. Burning produces harmful and toxic fumes.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Fire debris must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures see, section 8. Ensure adequate ventilation. Do not breathe vapour/spray. Avoid contact with the skin, eyes and clothing.

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater. Inform authorities in the event of product spillage to water courses or sewage systems.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material.
For large amounts: Dike spillage. Vacuum up spilled product.
For residues: Pick up with inert absorbent material (e.g. sand, earth etc.).
Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Aluminium, Stove-lacquer RDL 50, glass, tinned carbon steel (Tinplate)
Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place. Protect from the effects of light.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

PNEC

freshwater: 0.00678 mg/l

marine water: 0.000678 mg/l

intermittent release: 0.0678 mg/l

sediment (freshwater): 0.125 mg/kg

sediment (marine water): 0.0125 mg/kg

soil: 0.0209 mg/kg

STP: 1.6 mg/l

DNEL

worker:

Long-term exposure- systemic effects, Inhalation: 9 mg/m³

worker:

Long-term exposure- systemic effects, dermal: 1.7 mg/kg

worker:

Long- and short-term exposure - local effects, dermal: 140 µg/cm³

consumer:

Long-term exposure- systemic effects, Inhalation: 2.7 mg/m³

consumer:

Long-term exposure- systemic effects, dermal: 1 mg/kg

consumer:

Long-term exposure- systemic effects, oral: 0.6 mg/kg

consumer:

Long- and short-term exposure - local effects, dermal: 140 µg/cm³

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Consider the risk management measures as outlined in the exposure scenario.

Hand protection:

Consider the risk management measures as outlined in the exposure scenario.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Consider the risk management measures as outlined in the exposure scenario.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

Consider the risk management measures as outlined in the exposure scenario.

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. Store work clothing separately. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift.

Environmental exposure controls

For information regarding environmental exposure controls, see Section 6.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless to yellowish	
Odour:	of lemon	
Odour threshold:	< 100 ppm	
pH value:	approx. 7	
	moderately soluble	
Melting point:	< -20 °C	(other)
Boiling point:	approx. 230 °C	(other)
	The substance / product decomposes.	
Flash point:	98 °C	(other)
	Literature data.	
Evaporation rate:		
	not determined	
Flammability:	not flammable	(other)
Lower explosion limit:		
	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	

Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	225 °C	(DIN 51794)
	Literature data.	
Vapour pressure:	0.046 hPa	(calculated)
	(20 °C)	
	0.071 hPa	(calculated)
	(25 °C)	
	1.003 hPa	(measured)
	(59.29 °C)	
Density:	0.89 g/cm ³	
	(20 °C)	
Relative density:	0.89	(other)
	(20 °C)	
Relative vapour density (air):	not applicable	
Solubility in water:	moderately soluble	(other)
	0.42 g/l	
	(25 °C)	
Partitioning coefficient n-octanol/water (log Kow):	2.76	(OECD Guideline 107)
	(25 °C)	
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature. (Method: other)
Thermal decomposition:	not determined	
Viscosity, dynamic:	2.15 mPa.s	(calculated (from kinematic viscosity))
	(20 °C)	
	1.46 mPa.s	(calculated (from kinematic viscosity))
	(40 °C)	
Viscosity, kinematic:	2.42 mm ² /s	(OECD 114)
	(20 °C)	
	1.67 mm ² /s	(OECD 114)
	(40 °C)	
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties.	(other)
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	(other)

9.2. Other information

pKA:	The substance does not dissociate., Study scientifically not justified.	
Surface tension:	Based on chemical structure, surface activity is not to be expected.	(other)

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

When finely distributed, self-ignition is possible.

10.4. Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:

acids, bases

10.6. Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion. Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. Of low toxicity after short-term skin contact.

Experimental/calculated data:

LD50 rat (oral): approx. 6,800 mg/kg (BASF-Test)

rat (by inhalation): 7 h (IRT)

No mortality was observed.

LD50 rat (dermal): > 2,000 mg/kg (BASF-Test)

Irritation

Assessment of irritating effects:

Eye contact causes irritation. Skin contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (BASF-Test)

Serious eye damage/irritation rabbit: Irritant. (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

Caused skin sensitization in animal studies. Caused sensitization in humans.

Experimental/calculated data:

Guinea pig maximization test guinea pig: skin sensitizing

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. In the majority of tests performed (mammalian cell culture) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Carcinogenicity

Assessment of carcinogenicity:

Results from a number of long-term carcinogenicity studies are available. Taking into account all of the information, there is no indication that the substance itself is carcinogenic.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

No data available.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Prolonged repeated exposure caused inflammable degenerative processes in the respiratory tract of rats. Causes irritating effects at esophagus and the gastro-intestinal tract.

Aspiration hazard

No aspiration hazard expected.

SECTION 12: Ecological Information**12.1. Toxicity****Assessment of aquatic toxicity:**

Acutely toxic for aquatic organisms. Depending on local conditions and existing concentrations, disturbances in the biodegradation process of activated sludge are possible.

Acutely toxic for aquatic organisms. Depending on local conditions and existing concentrations, disturbances in the biodegradation process of activated sludge are possible.

Toxicity to fish:

LC50 (96 h) 6.8 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates:

EC50 (48 h) approx. 7 mg/l, *Daphnia magna* (Directive 79/831/EEC, static)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

Aquatic plants:

EC50 (72 h) 103.8 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 9, static)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:

EC50 (30 min) 2,100 mg/l, *Pseudomonas putida* (DIN 38412 Part 27 (draft), aquatic)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

EC20 (30 min) approx. 68 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)

12.2. Persistence and degradability**Assessment biodegradation and elimination (H₂O):**

Readily biodegradable (according to OECD criteria).

Elimination information:

92 % BOD of the ThOD (28 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, activated sludge, domestic)

> 90 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (activated sludge, domestic)

Assessment of stability in water:

Study scientifically not justified.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will slowly evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

Special precautions for user None known

RID

UN number: Not classified as a dangerous good under transport regulations
 UN proper shipping name: Not applicable
 Transport hazard class(es): Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user None known

Inland waterway transport**ADN**

UN number: Not classified as a dangerous good under transport regulations
 UN proper shipping name: Not applicable
 Transport hazard class(es): Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport**IMDG**

UN number: Not classified as a dangerous good under transport regulations
 UN proper shipping name: Not applicable
 Transport hazard class(es): Not applicable
 Packing group: Not applicable
 Environmental hazards: Not applicable
 Special precautions for user None known

Air transport**IATA/ICAO**

Not classified as a dangerous good under transport regulations

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

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

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Aquatic Acute 2
Acute Tox. 5 (dermal)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 2A
Acute Tox. 5 (oral)
Skin Sens. 1B

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.