We create chemistry

Safety Data Sheet
Citral Extra

1. Identification

Product identifier used on the label

Citral Extra

Recommended use of the chemical and restriction on use

Recommended use*: Chemical, Chemical for detergents, Cosmetic and oral care chemical, flavoring substance
Unsuitable for use: Not intended for sale to or use by the general public.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Synonyms: CITRAL

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2022-272)

Classification of the product

Skin Irrit.	2	Skin irritation
Eye Irrit.	2A	Eye irritation
Aquatic Acute	2	Hazardous to the aquatic environment - acute
Skin Sens.	1	Skin sensitization

Label elements

Pictogram:

Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H401	Toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing mist or vapour or spray.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts 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.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P332 + P313	If skin irritation occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P337 + P313	If eye irritation persists: Get medical attention.

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

When finely distributed on porose material, self-ignition is possible.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2022-272)

3,7-dimethyl-2,6-octadien-1-al
CAS Number: 5392-40-5
Content (W/W): 80.0 - 100.0%
Synonym: 3,7-Dimethyl-2,6-octadienal; Citral

The actual concentration is withheld as a trade secret.

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing immediately and clean before re-use or dispose it if necessary.

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

If on skin:
Remove contaminated clothing. Wash skin with soap and water, rinse abundantly. Seek medical attention.

If in eyes:
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. If irritation develops, seek medical attention.

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

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, allergic contact dermatitis, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

Indication of any immediate medical attention and special treatment needed

Note to physician

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

5. Fire-Fighting Measures

Suitable extinguishing media:
dry powder, foam, carbon dioxide, water spray

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon oxides, harmful vapours
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:
When finely distributed on porose material, self-ignition is possible. Soiled textiles/cleaning rags made of natural fibres (e.g. of pure wool or of pure cotton) are capable of ignition and should not be used and/or must be desposed of in a safe manner.

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.

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

Methods and material for containment and cleaning up
For small amounts: Pick up with suitable absorbent material. Do not use saw-dust or other combustible substances as an absorbant during cleanup.
For large amounts: Dike spillage. Pump off product.
Dispose of absorbed material in accordance with regulations. Mop up spills with non-flammable adsorbents (e.g. vermiculite, spill mats). Soiled textiles / cleaning rags / adsorbents and Silica are capable of self ignition and should be wetted with water and must be disposed of in a safe manner.

7. Handling and Storage

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. This product may cause irritations; wash your hands after every contact.

Protection against fire and explosion:
Risk of self-ignition when a large surface area is produced due to fine dispersion. Soiled textiles / cleaning rags / adsorbents and Silica are capable of self ignition and should be wetted with water and must be disposed of in a safe manner. Avoid all sources of ignition: heat, sparks, open flame. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities
No applicable information available.

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place. Protect from the effects of light.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

3,7-dimethyl-2,6-octadien-1-al	ACGIH, US:	TWA value 5 ppm Inhalable fraction and vapor ;
	ACGIH, US:	Skin Designation Inhalable fraction and vapor ; Danger of cutaneous absorption
	ACGIH, US:	Skin Designation Inhalable fraction and vapor ; Danger of cutaneous absorption

Advice on system design:
Ensure adequate ventilation.

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Hand protection:
Chemical resistant protective gloves

Eye protection:
Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

Body protection:
Body protection must be chosen based on level of activity and exposure.

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. 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. Store work clothing separately.

9. Physical and Chemical Properties

Physical state:	liquid	
Form:	liquid	
Odour:	of lemon	
Odour threshold:	< 100 ppm	
Colour:	colourless to yellowish	
pH value:	not applicable	
glass transition temperature:	-115 °C	(DSC (DIN 51007))
Melting point:	No data available.	
Freezing point:	No data available.	
Boiling point:	approx. 230 °C (1,013 hPa) The substance / product decomposes.	(other)
Sublimation point:	No applicable information available.	
Flash point:	98 °C Literature data.	(other)

Flammability:	hardly combustible	(derived from flash point)
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.	
Autoignition:	225 °C Literature data.	(DIN 51794)
SADT:	> 75 °C Heat accumulation / Dewar 500 ml (SADT, 28.4.4)	UN-Test H.4,
Vapour pressure:	0.046 hPa (20 °C)	(calculated)
	0.071 hPa (25 °C)	(calculated)
	1.003 hPa (59.29 °C)	(measured)
Density:	0.89 g/cm3 (20 °C) Literature data.	
Relative density:	0.89 (20 °C) Literature data.	(other)
Relative vapour density:	5.24 (20 °C) Heavier than air.	(calculated)
Partitioning coefficient n-octanol/water (log Pow):	2.76 (25 °C)	(OECD Guideline 107)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	210 °C (DSC (DIN 51007)) self-accelerating reaction	
Viscosity, dynamic:	2.15 mPa.s (20 °C)	(calculated (from kinematic viscosity))
	1.46 mPa.s (40 °C)	(calculated (from kinematic viscosity))
Viscosity, kinematic:	2.42 mm2/s (20 °C)	(OECD Guideline 114)
	1.67 mm2/s (40 °C)	(OECD Guideline 114)
Solubility in water:	0.42 g/l (25 °C) moderately soluble	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	No applicable information available.	
Molecular weight:	152.24 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

Particle characteristics

No applicable information available.

10. Stability and Reactivity

Reactivity
No applicable information available.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

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

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

Possibility of hazardous reactions
Self-ignition is possible when finely distributed on flammable surfaces in the presence of air.

Conditions to avoid
Avoid electro-static discharge. Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials
acids, bases

Hazardous decomposition products

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

Thermal decomposition:
210 °C (DSC (DIN 51007))
self-accelerating reaction

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Oral
Type of value: LD50
Species: rat (male/female)

Value: approx. 6.800 mg/kg (BASF-Test)

Type of value: LD50
Species: rat (female)
Value: approx. 4,895 mg/kg (BASF-Test)

Inhalation
No data available.

Dermal
Type of value: LD50
Species: rat
Value: > 2,000 mg/kg (BASF-Test)

Assessment other acute effects
Assessment of STOT single:
Based on available data, the classification criteria are not met.

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. Eye contact causes irritation.

Skin
Species: rabbit
Result: Irritant.
Method: BASF-Test

Eye
Species: rabbit
Result: Irritant.
Method: BASF-Test

Sensitization
Assessment of sensitization: Caused skin sensitization in animal studies. Caused sensitization in humans.

Guinea pig maximization test
Species: guinea pig
Result: skin sensitizing

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
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.

Genetic toxicity
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 carcinogenity 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.

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

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to 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.

Assessment of terrestrial toxicity
No data available concerning terrestrial toxicity.
Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
DIN 38412 Part 27 (draft) aquatic
bacterium/EC50 (30 min): 2,100 mg/l
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.

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

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/EWG, C.4-F) (aerobic, activated sludge, domestic)

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

Assessment of stability in water
Substance is readily biodegradable, therefore hydrolysis is not expected to be relevant.
Study scientifically not justified.

Bioaccumulative potential

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

Mobility in soil

Assessment transport between environmental compartments
The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:
Observe national and local legal requirements.

Container disposal:
Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released / listed

Chemical DSL, CA

DSL listed and/or otherwise compliant.

NFPA Hazard codes:
Health: 2 Fire: 1 Reactivity: 0 Special:

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

Aquatic Acute	2	Hazardous to the aquatic environment - acute
Acute Tox.	5 (dermal)	Acute toxicity
Skin Irrit.	2	Skin irritation
Eye Irrit.	2A	Eye irritation
Acute Tox.	5 (oral)	Acute toxicity
Skin Sens.	1	Skin sensitization

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2025/08/11

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

Date / Revised: 2025/08/11 Version: 5.0
Date / Previous version: 2022/09/07 Previous version: 4.0

END OF DATA SHEET