

Safety Data Sheet acc. to OSHA HCS

Printing date 01/24/2019

Version: 1


Reviewed on 01/24/2019

1 Identification

- **Product identifier**
- **Trade name:** *Chrysal Professional 2 Double Concentrate*
- **Article number:** C458
- **Application of the substance / the mixture** *Cut flower food (professional product)*
- **Details of the supplier of the safety data sheet**
*Chrysal International BV
PO BOX 5300
1410 AH Naarden
The Netherlands
T: +31 35 6955888
e-mail: info@chrysal.nl*
- **Manufacturer/Supplier:**
*Chrysal Colombia S.A:
Cra 106 No. 15-25
Manzana 9, Bodega 21
Bogotá - Colombia*

Tel. (571) 4046529
- **Information department:**
*Chrysal Americas 1-800-247-9725
Department: Regulatory Affairs of Chrysal International BV, the Netherlands*
- **Emergency telephone number:**
*ChemTel Inc. 1-800-255-3924 Int. +01-813-248-0585
Tel.: (57) 3165281657*

2 Hazard(s) identification

- **Classification of the substance or mixture**
*Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.*
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS07
- **Signal word** *Warning*
- **Hazard-determining components of labeling:**
mixture of: 5-chloro-2-methyl-2 H -isothiazol-3-one [EC No 247-500-7] and 2-methyl-2 H -isothiazol-3-one [EC No 220-239-6] (3:1)
- **Hazard statements**
H319 Causes serious eye irritation.

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 1)

H317 May cause an allergic skin reaction.

· **Precautionary statements**

- P280 Wear protective gloves / eye protection.
- P302+P352 If on skin: Wash with plenty of 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.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances with nonhazardous additions.

· **Dangerous components:**

77-92-9	citric acid	≥5<10%
	Eye Irrit. 2A, H319	
55965-84-9	mixture of: 5-chloro-2-methyl-2 H -isothiazol-3-one [EC No 247-500-7] and 2-methyl-2 H -isothiazol-3-one [EC No 220-239-6] (3:1)	0.06-<0.1%
	Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After skin contact:**
If skin irritation continues, consult a doctor.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Rinse mouth with water and drink one or two glasses of water.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 2)

- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
Exposure to isothiazolinones may cause allergic skin reaction in susceptible people. Skin reactions usually occur after 24 hours or more after exposure. Sometimes mucosal irritation and respiratory problems can occur
- **Indication of any immediate medical attention and special treatment needed** Symptomatic treatment

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow undiluted product or large quantities of the dilution to reach ground water, water course or sewage
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**
None of the ingredients is listed.

· **PAC-2:**
None of the ingredients is listed.

· **PAC-3:**
None of the ingredients is listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 3)

- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Use chemical resistant gloves classified under standard EN 374 when prolonged or frequently repeated contact with the chemical could occur.
Short-term use: Chemical protective gloves with CE mark that comply with the standard (low chemical resistant / waterproof).
Recommended thickness of the material: ≥ 0.12 mm
Suitable glove material is e. g:
Nitrile rubber, NBR
Neoprene gloves
- **Penetration time of glove material**
For the mixture of chemicals mentioned below the penetration time has to be at least 0.12 minutes (Permeation according to EN 374 Part 3: Level 0).
For protective gloves that meet the standard EN 374 breakthrough time > 60 minutes (Protection Index Class 3 or higher).
Check before each use the protective gloves for damage.
- **Eye protection:**



Tightly sealed goggles

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 4)

- **Limitation and supervision of exposure into the environment**
Do not allow undiluted product or large quantities of the dilution to reach ground water, water course or sewage

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Fluid
· Color:	Colorless
· Odor:	Odorless
· Odor threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 2.45

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C (212 °F)

· **Flash point:** 160 °C (320 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 1,010 °C (1,850 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.21 g/cm³ (10.09745 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **Dynamic:** Not determined.

· **Kinematic:** Not determined.

· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 5)

- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
The product has not been tested. The values listed below are derived from the properties of the individual components:
Oral LD50 (rat): > 5000 mg/kg
Dermal LD50 (rabbit): > 5000 mg/kg
Inhalation LC50 (rat): > 20 mg/l
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water or water course and do not allow undiluted product to reach sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 6)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.
- **Uncleaned packagings:**
- **Recommendation:**
Packaging can be reused or recycled after cleaning.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- | | |
|--|--|
| · UN-Number | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | Not applicable. |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 7)

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Attention: The following risk phrase relate to the raw materials in the product and not the product itself. The (EU) H-phrases for the mixture, if relevant, can be found in Section 2.

· **Relevant phrases**

- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· **Department issuing SDS:**

Chrysal International BV, the Netherlands
Department: Product Safety & Regulatory Affairs

· **Contact:** Afdeling: Regulatory Affairs

· **Date of preparation / last revision** 01/24/2019 / -

(Contd. on page 9)

Safety Data Sheet acc. to OSHA HCS

Printing date 01/24/2019

Version: 1

Reviewed on 01/24/2019

(Contd. of page 8)

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

US