

Chrysal Professional 2 - Florist

Date of compilation: 11/13/2019


Revised: 9/22/2020

Version: 6 (Replaced 5)

SECTION 1: IDENTIFICATION

- 1.1 GHS Product identifier:** Chrysal Professional 2 - Florist
Code: 418.xxx.xxx
- 1.2 Recommended use of the chemical and restrictions on use:**
Relevant uses: cut flower conditioner
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**
Chrysal International BV
Goimeer 7
1411 DD Naarden - The Netherlands
Phone.: +31 (0)35 6955888
Info@chrysal.nl
- 1.4 Emergency phone number:** ChemTel Inc. 1-800-255-3924 Int. +01-813-248-0585
+31 (0)35 6955827 or +31 (0)35 6955850 (during office hours: UTC+1)

SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
Product classified regardless of its extreme pH.
29 CFR 1910.1200:
Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.
Eye Irrit. 2: Eye irritation, Category 2, H319
Skin Irrit. 2: Skin irritation, Category 2, H315
Skin Sens. 1A: Sensitisation, skin, Category 1A, H317
- 2.2 Label elements:**
29 CFR 1910.1200:
Warning
- 
- Hazard statements:**
Eye Irrit. 2: H319 - Causes serious eye irritation
Skin Irrit. 2: H315 - Causes skin irritation
Skin Sens. 1A: H317 - May cause an allergic skin reaction
- Precautionary statements:**
P261: Avoid breathing dust/fume/gas/mist/vapours/spray
P264: Wash thoroughly after use
P280: Wear protective gloves/protective clothing/eye protection/face protection
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
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively
- 2.3 Hazards not otherwise classified (HNOC):**
Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances:**
Non-applicable
- 3.2 Mixtures:**
Chemical description: Mixture of substances
Components:

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 77-92-9	Citric Acid Eye Irrit. 2: H319 - Warning	2,5 - <10 %
CAS: 55965-84-9	reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) Acute Tox. 3: H301+H311+H331; Skin Corr. 1B: H314; Skin Sens. 1: H317 - Danger	<0,025 %

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

This product is not classified as hazardous through inhalation, however, it is recommended in case of intoxication symptoms to remove the person affected from the area of exposure, provide clean air and keep at rest. Request medical attention if symptoms persist.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

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 may occur.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Non-applicable

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable (and unsuitable) extinguishing media:

Product is non-flammable under normal conditions of storage, manipulation and use. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use full jet water as an extinguishing agent.

5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

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SECTION 5: FIRE-FIGHTING MEASURES (continued)

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilled product (See section 8). Evacuate the area and keep out those who do not have protection.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and materials for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current standards 29 CFR 1910 Occupational Safety and Health Standards. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 39.2 °F

Maximum Temp.: 86 °F

Maximum time: 24 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

There are no occupational exposure limits for the substances contained in the product

8.2 Appropriate engineering controls:


A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection


The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves (NBR), Breakthrough Time 480 min, thickness 0.12 mm	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application



D.- Ocular and facial protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

The information in this section contains generic advice and guidance. Select proper emergency measures based on a risk assessment of the actual exposure situation.

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 68 °F: Liquid

*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Appearance:	Colorless
Color:	Not available
Odor:	Odorless
Odour threshold:	Non-applicable *
Volatility:	
Boiling point at atmospheric pressure:	212 °F
Vapour pressure at 68 °F:	2350 Pa
Vapour pressure at 122 °F:	12381.01 Pa (12.38 kPa)
Evaporation rate at 68 °F:	Non-applicable *
Product description:	
Density at 68 °F:	1229 kg/m ³
Relative density at 68 °F:	Non-applicable *
Dynamic viscosity at 68 °F:	Non-applicable *
Kinematic viscosity at 68 °F:	Non-applicable *
Kinematic viscosity at 104 °F:	Non-applicable *
Concentration:	Non-applicable *
pH:	1.84
Vapour density at 68 °F:	Non-applicable *
Partition coefficient n-octanol/water 68 °F:	Non-applicable *
Solubility in water at 68 °F:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Flammability:	
Flash Point:	Non Flammable (>199.4 °F)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *
Explosive:	
Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *
9.2 Other information:	
Surface tension at 68 °F:	Non-applicable *
Refraction index:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

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SECTION 10: STABILITY AND REACTIVITY (continued)

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Not applicable	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, however it does contain substances classified as dangerous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
IARC: Non-applicable
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

In vivo skin-irritation test (OECD 404, PSL 2013) and in vitro eye-irritation test (OECD 438) of a substantially similar mixture (bridging principles) show the product is not corrosive to skin or eyes.

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
Citric Acid CAS: 77-92-9	5400 mg/kg	2001 mg/kg	Mouse
	>5 mg/L (4 h)		Rat
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9	100 mg/kg	300 mg/kg	Rat
			Rat
	Non-applicable		

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Ecotoxicity (aquatic and terrestrial, where available):

Identification	Acute toxicity		Species	Genus
	LC50	EC50		
Citric Acid CAS: 77-92-9	1516 mg/L (96 h)		Lepomis macrochirus	Fish
	160 mg/L (48 h)		N/A	Crustacean
	Non-applicable			
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) CAS: 55965-84-9	0.28 mg/L (96 h)		Lepomis macrochirus	Fish
	0.16 mg/L (48 h)		Daphnia magna	Crustacean
	0.018 mg/L (72 h)		Selenastrum capricornutum	Algae

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
	BOD5	COD	Concentration	Period
Citric Acid CAS: 77-92-9	Non-applicable	Non-applicable	10 mg/L	28 days
	Non-applicable	Non-applicable	% Biodegradable	97 %
	Non-applicable	Non-applicable		

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
	BCF	Pow Log
Citric Acid CAS: 77-92-9	3	-1.55
	Low	

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
	Koc	Surface tension	Henry	Dry soil
Citric Acid CAS: 77-92-9	Non-applicable	2.045E-2 N/m (663.67 °F)	Non-applicable	Non-applicable
	Non-applicable		Dry soil	Non-applicable
	Non-applicable		Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See epigraph 6.2.

Regulations related to waste management:

Legislation related to waste management:

40 CFR Part 261- IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

SARA Title III - Toxic Chemical Release Inventory Reporting (Section 313): Non-applicable

California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986): Non-applicable

The Toxic Substances Control Act (TSCA) : Citric Acid

Massachusetts RTK - Substance List: Non-applicable

New Jersey Worker and Community Right-to-Know Act: Non-applicable

New York RTK - Substance list: Non-applicable

Pennsylvania Worker and Community Right-to-Know Law: Non-applicable

CANADA-Domestic Substances List (DSL): Citric Acid ; reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

CANADA-Non-Domestic Substances List (NDSL): Non-applicable

NTP (National Toxicology Program): Non-applicable

Minnesota - Hazardous substances ERTK: Non-applicable

Rhode Island - Hazardous substances RTK: Non-applicable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Non-applicable

Hazardous substances release notification under CERCLA sections 102-103 (40 CFR Part 302): Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

The Toxic Substances Control Act (TSCA)

Occupational Safety and Health Standards (1910 Subpart Z - Toxic and Hazardous Substances)

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

Texts of the legislative phrases mentioned in section 2:

H315: Causes skin irritation

H319: Causes serious eye irritation

H317: May cause an allergic skin reaction

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

29 CFR 1910.1200:

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SECTION 16: OTHER INFORMATION (continued)

Acute Tox. 3: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled

Eye Irrit. 2: H319 - Causes serious eye irritation

Skin Corr. 1B: H314 - Causes severe skin burns and eye damage

Skin Sens. 1: H317 - May cause an allergic skin reaction

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

Abbreviations and acronyms:

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

CL50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

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END OF SAFETY DATA SHEET