

CARIAL PLUS

Version 7.0 Revision Date: 23.02.2022 SDS Number: S00029180430 This version replaces all previous versions.

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

1.1 Product identifier

Trade name : CARIAL PLUS
Design code : A16520B

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

Use of the Substance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG
Rosentalstrasse 67, Postfach
CH-4002 Basel
Switzerland

Telephone : +41 61 323 11 11
Telefax : +41 61 323 12 12

E-mail address of person responsible for the SDS : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

| | |
|---|--|
| Acute toxicity, Category 4 | H302: Harmful if swallowed. |
| Reproductive toxicity, Category 2 | H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child. |
| Specific target organ toxicity - repeated exposure, Category 2, Blood, thymus | H373: May cause damage to organs through prolonged or repeated exposure. |
| Short-term (acute) aquatic hazard, Category 1 | H400: Very toxic to aquatic life. |
| Long-term (chronic) aquatic hazard, Category 1 | H410: Very toxic to aquatic life with long lasting effects. |

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs (Blood, thymus) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P260 Do not breathe dust.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:

cymoxanil (ISO)

Additional Labelling

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

EUH208 Contains cymoxanil (ISO). May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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May form combustible dust concentrations in air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

| Chemical name | CAS-No. EC-No. Index-No. Registration number | Classification | Concentration (% w/w) |
|---------------------|--|---|--------------------------|
| mandipropamid (ISO) | 374726-62-2 616-213-00-2 | Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 | >= 25 - < 30 |
| cymoxanil (ISO) | 57966-95-7 261-043-0 616-035-00-5 | Acute Tox. 4; H302 Skin Sens. 1; H317 Repr. 2; H361fd STOT RE 2; H373 (Blood, thymus) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 | >= 10 - < 20 |
| citric acid | 77-92-9 201-069-1 607-750-00-3 01-2119457026-42 | Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) | >= 1 - < 10 |

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

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- If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Nonspecific
No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.
Treat symptomatically.
-

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Fire will spread by burning with a visible flame.
As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.

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5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.
-

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Refer to protective measures listed in sections 7 and 8.
Avoid dust formation.

6.2 Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
Do not create a powder cloud by using a brush or compressed air.
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion.
Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material.
Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

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In general personnel handling this material and all conducting equipment should be electrically earthed or grounded. Bulk bags (FIBC) used to contain this material should be Type B, Type C or Type D. Type C bags must be electrically grounded or earthed before powder is charged to or discharged from the bag. If metal or fibre drums are used to contain this material, make certain the metal parts are bonded to the filling equipment and grounded.

This material can become readily charged in most operations.

Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---------------------|---|-------------------------------|---------------------|----------|
| starch | 9005-25-8 | TWA (alveolate dust) | 3 mg/m ³ | CH SUVA |
| mandipropamid (ISO) | 374726-62-2 | TWA | 5 mg/m ³ | Syngenta |
| citric acid | 77-92-9 | TWA (inhalable dust) | 2 mg/m ³ | CH SUVA |
| | Further information: Harm to the unborn child is not to be expected when the OEL-value is respected | | | |
| | | STEL (inhalable dust) | 4 mg/m ³ | CH SUVA |
| | Further information: Harm to the unborn child is not to be expected when the OEL-value is respected | | | |

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

| Substance name | Environmental Compartment | Value |
|----------------|---------------------------|------------|
| citric acid | Fresh water | 0.44 mg/l |
| | Marine water | 0.044 mg/l |
| | Fresh water sediment | 34.6 mg/kg |

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| | | |
|--|------------------------|------------|
| | Marine sediment | 3.46 mg/kg |
| | Sewage treatment plant | 1000 mg/l |
| | Soil | 33.1 mg/kg |

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : No special protective equipment required.
Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:

Dust impervious protective suit
Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Suitable respiratory equipment:
Respirator with a particle filter (EN 143)
The filter class for the respirator must be suitable for the maximum expected contaminant concentration

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Filter type : (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Protective measures : Particulates type (P)
: The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

Environmental exposure controls

Water : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : granules
Colour : beige to brown

Odour : chalky
Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flammability : May form combustible dust concentrations in air.

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Minimum ignition temperature : 390 °C
pH : 3 - 7
Concentration: 1 % w/v

Viscosity
Viscosity, dynamic : No data available

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Viscosity, kinematic : No data available

Solubility(ies)
Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available
Vapour pressure : No data available

Density : 1 g/cm³

Bulk density : 0.4 - 0.6 g/cm³
Relative vapour density : No data available

Particle characteristics
Particle size : No data available

9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Flammable solids
Burning number : 5 (100 °C)
5 (20 °C)

Evaporation rate : No data available

Miscibility with water : Miscible

Minimum ignition energy : 3 - 10 mJ

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

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10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure : Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 1,049 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.03 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is minimally toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:

mandipropamid (ISO):

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,050 mg/kg

cymoxanil (ISO):

Acute oral toxicity : LD50 (Rat): 960 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.06 mg/l
Exposure time: 4 h

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Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

mandipropamid (ISO):

Species : Rabbit
Result : No skin irritation

cymoxanil (ISO):

Species : Rabbit
Result : No skin irritation

citric acid:

Result : Irritating to skin.

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation

Components:

mandipropamid (ISO):

Species : Rabbit
Result : No eye irritation

cymoxanil (ISO):

Species : Rabbit
Result : No eye irritation

citric acid:

Result : Risk of serious damage to eyes.

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Respiratory or skin sensitisation

Product:

Test Type : Buehler Test
Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

Components:

mandipropamid (ISO):

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

cymoxanil (ISO):

Species : Guinea pig
Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

mandipropamid (ISO):

Germ cell mutagenicity-
Assessment : Animal testing did not show any mutagenic effects.

cymoxanil (ISO):

Germ cell mutagenicity-
Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

mandipropamid (ISO):

Carcinogenicity -
Assessment : No evidence of carcinogenicity in animal studies.

cymoxanil (ISO):

Carcinogenicity -
Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

mandipropamid (ISO):

Reproductive toxicity -
Assessment : No toxicity to reproduction

cymoxanil (ISO):

Reproductive toxicity -
Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of

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adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

citric acid:

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Components:

cymoxanil (ISO):

Target Organs : Blood, thymus
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

mandipropamid (ISO):

Remarks : No adverse effect has been observed in chronic toxicity tests.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 32 mg/l
Exposure time: 96 h

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 61 mg/l
Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 16 mg/l
End point: Growth rate
Exposure time: 72 h

Components:

mandipropamid (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Crassostrea virginica (eastern oyster)): 0.97 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 2.5 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 1.3 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.5 mg/l
Exposure time: 32 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.076 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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cymoxanil (ISO):

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 29 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : (Daphnia magna (Water flea)): 27 mg/l
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC: 0.00098 mg/l
Exposure time: 97 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.067 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

12.2 Persistence and degradability

Components:

mandipropamid (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 4.5 - 26 d
Remarks: Product is not persistent.

cymoxanil (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: < 1 d
Remarks: Product is not persistent.

12.3 Bioaccumulative potential

Components:

mandipropamid (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 3.2 (25 °C)

cymoxanil (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n- : Pow: 4.66

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octanol/water log Pow: 0.66

12.4 Mobility in soil

Components:

mandipropamid (ISO):

Distribution among environmental compartments : Remarks: Low mobility in soil.
Stability in soil : Dissipation time: 26 - 178 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

cymoxanil (ISO):

Distribution among environmental compartments : Remarks: Moderately mobile in soils
Stability in soil : Dissipation time: 0.9 - 9 h
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

mandipropamid (ISO):

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

citric acid:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
-

SECTION 14: Transport information

14.1 UN number or ID number

- ADN : UN 3077
ADR : UN 3077
RID : UN 3077
IMDG : UN 3077
IATA : UN 3077

14.2 UN proper shipping name

- ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(MANDIPROPAMID AND CYMOXANIL)
- ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(MANDIPROPAMID AND CYMOXANIL)
- RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(MANDIPROPAMID AND CYMOXANIL)
- IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(MANDIPROPAMID AND CYMOXANIL)
- IATA : Environmentally hazardous substance, solid, n.o.s.
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(MANDIPROPAMID AND CYMOXANIL)

14.3 Transport hazard class(es)

ADN : 9
ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADN
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

ADR
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)
Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

IATA (Passenger)
Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

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ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Banned and/or restricted

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

PIC Ordinance, ChemPICO (814.82) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| | | Quantity 1 | Quantity 2 |
|----|-----------------------|------------|------------|
| E1 | ENVIRONMENTAL HAZARDS | 100 t | 200 t |

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



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Version 7.0 Revision Date: 23.02.2022 SDS Number: S00029180430 This version replaces all previous versions.

Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-Statements

| | |
|--------|--|
| H302 | : Harmful if swallowed. |
| H315 | : Causes skin irritation. |
| H317 | : May cause an allergic skin reaction. |
| H319 | : Causes serious eye irritation. |
| H335 | : May cause respiratory irritation. |
| H361fd | : Suspected of damaging fertility. Suspected of damaging the unborn child. |
| H373 | : May cause damage to organs through prolonged or repeated exposure. |
| H400 | : Very toxic to aquatic life. |
| H410 | : Very toxic to aquatic life with long lasting effects. |

Full text of other abbreviations

| | |
|-----------------|--|
| Acute Tox. | : Acute toxicity |
| Aquatic Acute | : Short-term (acute) aquatic hazard |
| Aquatic Chronic | : Long-term (chronic) aquatic hazard |
| Eye Irrit. | : Eye irritation |
| Repr. | : Reproductive toxicity |
| Skin Irrit. | : Skin irritation |
| Skin Sens. | : Skin sensitisation |
| STOT RE | : Specific target organ toxicity - repeated exposure |
| STOT SE | : Specific target organ toxicity - single exposure |
| CH SUVA | : Switzerland. Limit values at the work place |
| CH SUVA / TWA | : Time Weighted Average |
| CH SUVA / STEL | : Short Term Exposure Limit |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



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ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

| | |
|-------------------|--------|
| Acute Tox. 4 | H302 |
| Repr. 2 | H361fd |
| STOT RE 2 | H373 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

Classification procedure:

| |
|-------------------------------------|
| Based on product data or assessment |
| Calculation method |
| Calculation method |
| Calculation method |
| Calculation method |

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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