# SAFETY DATA SHEET

# Eagle® 20EW

| Version | Revision Date: | SDS Number: | Date of last issue: - |
|---|---|---|---|
| 1.0 | 02/25/2022 | 800080004535 | Date of first issue: 02/25/2022 |

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

## SECTION 1. IDENTIFICATION

Product name : Eagle® 20EW

**Manufacturer or supplier's details**

**COMPANY IDENTIFICATION**

**Manufacturer/importer** : CORTEVA AGRISCIENCE LLC
9330 ZIONSVILLE RD
INDIANAPOLIS, IN, 46268-1053
UNITED STATES

**Customer Information Number** : 800-992-5994

**E-mail address** : customerinformation@corteva.com

**Emergency telephone** : INFOTRAC (CONTRACT 84224).

800-992-5994 or 317-337-6009

**Recommended use of the chemical and restrictions on use**

Recommended use : End use fungicide product

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Eye irritation : Category 2A

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Liver)

**GHS label elements**

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Liver) through prolonged or repeated exposure if swallowed.

Precautionary Statements :

**Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|---|---|
| myclobutanil(ISO) | 88671-89-0 | 19.4 |
| Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified | 64742-94-5 | >= 20 - < 25 |

| | | |
|---|---|---|
| cyclohexanone | 108-94-1 | >= 10 - < 20 |
| Propylene glycol | 57-55-6 | >= 3 - < 10 |
| Hydrocarbons, C9, aromatics | Not Assigned | >= 1 - < 3 |
| naphthalene | 91-20-3 | >= 0.1 - < 0.3 |
| Balance | Not Assigned | > 30 |

Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

If inhaled : Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
If breathing is difficult, oxygen should be administered by qualified personnel.

In case of skin contact : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

In case of eye contact : Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
Suitable emergency eye wash facility should be immediately available.

If swallowed : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : None known.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Repeated excessive exposure may aggravate preexisting lung disease.
Maintain adequate ventilation and oxygenation of the patient.
May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help.
No specific antidote.
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

## SECTION 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water spray<br>Alcohol-resistant foam |
| Unsuitable extinguishing media | : | None known. |
| Specific hazards during fire fighting | : | Exposure to combustion products may be a hazard to health.<br>Do not allow run-off from firefighting to enter drains or water courses. |
| Hazardous combustion products | : | During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.<br><br>Combustion products may include and are not limited to:<br>Nitrogen oxides (NOx)<br>Hydrogen chloride gas<br>Carbon oxides |
| Specific extinguishing methods | : | Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area.<br>Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers. |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. |
| Environmental precautions | : | If the product contaminates rivers and lakes or drains inform respective authorities.<br>Discharge into the environment must be avoided.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g., by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained.<br>Prevent from entering into soil, ditches, sewers, underwater.<br>See Section 12, Ecological Information. |
| Methods and materials for containment and cleaning up | : | Clean up remaining materials from spill with suitable absorbant.<br>Local or national regulations may apply to releases and dis- |

posal of this material, as well as those materials and items employed in.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped,
Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
See Section 13, Disposal Considerations, for additional information.

## SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapors/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Avoid inhalation of vapor or mist.
Do not swallow.
Do not get in eyes.
Avoid contact with skin and eyes.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Conditions for safe storage : Store in a closed container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in properly labeled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified | 64742-94-5 | TWA | 100 mg/m3 | Corteva OEL |

| | | | | |
|---|---|---|---|---|
| | | STEL | 300 mg/m3 | Corteva OEL |
| | | TWA | 200 mg/m3 (total hydrocarbon vapor) | ACGIH |
| myclobutanil(ISO) | 88671-89-0 | TWA | 0.5 mg/m3 | Dow IHG |
| cyclohexanone | 108-94-1 | TWA | 20 ppm | ACGIH |
| | | STEL | 50 ppm | ACGIH |
| | | TWA | 50 ppm<br>200 mg/m3 | OSHA Z-1 |
| Propylene glycol | 57-55-6 | TWA | 10 mg/m3 | US WEEL |
| naphthalene | 91-20-3 | TWA | 10 ppm | Dow IHG |
| | | STEL | 15 ppm | Dow IHG |
| | | TWA | 10 ppm | ACGIH |
| | | TWA | 10 ppm<br>50 mg/m3 | OSHA Z-1 |

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| cyclohexanone | 108-94-1 | 1,2-Cyclohexanediol | Urine | End of shift at end of work-week | 80 mg/l | ACGIH BEI |
| | | Cyclohexanol | Urine | End of shift (As soon as possible after exposure ceases) | 8 mg/l | ACGIH BEI |

**Engineering measures** : Use engineering controls to maintain airborne level below exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation.
Local exhaust ventilation may be necessary for some operations.

**Personal protective equipment**

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process.
In misty atmospheres, use an approved particulate respirator.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Ni-

trile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant work-place factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection : Use chemical goggles.
If exposure causes eye discomfort, use a full-face respirator.

Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Liquid. |
| Color | : | White |
| Odor | : | Ester. |
| Odor Threshold | : | No data available |
| pH | : | 6.57 (68 °F / 20 °C)<br>Concentration: 100 %<br>Method: CIPAC MT 75<br>(neat) |
| Melting point/range | : | Not applicable |
| Freezing point | | No data available |
| Boiling point/boiling range | : | No data available |
| Flash point | : | > 212 °F / > 100 °C<br><br>Method: CIPAC MT 12.3, closed cup |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density | : | No data available |

| | | |
|---|---|---|
| Density | : | 1.03 g/cm3 (68 °F / 20 °C)<br>Method: Digital density meter |
| Solubility(ies) | | |
| Water solubility | : | emulsifiable |
| Autoignition temperature | : | No data available |
| Viscosity | | |
| Viscosity, dynamic | : | 2,484 cP (77 °F / 25 °C) |
| Viscosity, kinematic | : | No data available |
| Explosive properties | : | No |
| Oxidizing properties | : | No |
| Surface tension | : | 38.2 mN/m, 77 °F / 25 °C, EC Method A5, GLP: yes |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | No decomposition if stored and applied as directed.<br>Stable under normal conditions. |
| Possibility of hazardous reactions | : | Stable under recommended storage conditions.<br>No hazards to be specially mentioned.<br>None known. |
| Conditions to avoid | : | None known. |
| Incompatible materials | : | Strong acids<br>Strong bases |
| Hazardous decomposition products | : | Decomposition products depend upon temperature, air supply and the presence of other materials.<br>Decomposition products can include and are not limited to:<br>Nitrogen oxides (NOx)<br>Hydrogen chloride gas<br>Carbon oxides |

## SECTION 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat, female): 3,749 mg/kg<br>Remarks: For similar material(s): |
| Acute inhalation toxicity | : | Acute toxicity estimate: 8.75 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: Calculation method |
| Acute dermal toxicity | : | LD50 (Rat, male and female): > 2,000 mg/kg |

Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: For similar material(s):

**Components:**

**myclobutanil(ISO):**

Acute oral toxicity : LD50 (Rat, male): 1,600 mg/kg

LD50 (Rat, female): 2,290 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

LD50 (Rat, male and female): > 5,000 mg/kg

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: For similar material(s):

Acute inhalation toxicity : Remarks: Prolonged excessive exposure to mist may cause adverse effects.
Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.
May cause central nervous system effects.
Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.
Signs and symptoms of excessive exposure may include:
Sweating.
Nausea and/or vomiting.

LC50 (Rat): > 5.28 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: For similar material(s):

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

**cyclohexanone:**

Acute oral toxicity : LD50 (Rat): 1,890 mg/kg

Acute inhalation toxicity : Remarks: Vapor concentrations are attainable which could be

hazardous on single exposure.
May cause central nervous system effects.
Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

LC50 (Rat): > 6.2 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Symptoms: No deaths occurred at this concentration.
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 950 mg/kg

**Propylene glycol:**

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg

Acute inhalation toxicity : LC50 (Rabbit): 317.042 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Mist may cause irritation of upper respiratory tract (nose and throat).

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

**Hydrocarbons, C9, aromatics:**

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg

Acute inhalation toxicity : Remarks: Vapor concentrations are attainable which could be hazardous on single exposure.
May cause respiratory irritation and central nervous system depression.
Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

LC50 (Rat): > 10.2 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

**naphthalene:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Lethal Dose (Humans): 5 - 15 grams
Method: Estimated.
Remarks: Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.
Ingestion of naphthalene by humans has caused hemolytic anemia.
Toxicity from swallowing may be greater in humans than in animals.
In humans, symptoms may include:
Confusion.
Lethargy.
Muscle spasms or twitches.
Convulsions.
Coma.

Acute inhalation toxicity : Remarks: Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
Excessive exposure may cause lung injury.
Signs and symptoms of excessive exposure may include:
Headache.
Confusion.
Sweating.
Nausea and/or vomiting.

LC50 (Rat): > 0.41 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Symptoms: The LC50 value is greater than the Maximum Attainable Concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,500 mg/kg
Remarks: Human case reports suggest Naphthalene may be absorbed through the skin in toxic amounts, especially in children.

LD50 (Rabbit): > 2,500 mg/kg

**Skin corrosion/irritation**

**Product:**

Result : Mild skin irritation

**Components:**

**myclobutanil(ISO):**

Species : Rabbit
Result : No skin irritation

**cyclohexanone:**

Result : Skin irritation

**Propylene glycol:**

Species : Rabbit
Result : No skin irritation

**Hydrocarbons, C9, aromatics:**

Result : No skin irritation

**Serious eye damage/eye irritation**

**Product:**

Result : Eye irritation

**Components:**

**myclobutanil(ISO):**

Species : Rabbit
Result : Eye irritation

**cyclohexanone:**

Result : Corrosive

**Propylene glycol:**

Species : Rabbit
Result : No eye irritation

**Hydrocarbons, C9, aromatics:**

Result : No eye irritation

**Respiratory or skin sensitization**

**Product:**

Assessment : Does not cause skin sensitization.
Remarks : For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

**Components:**

**myclobutanil(ISO):**

Species : Guinea pig
Assessment : May cause sensitization by skin contact.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Remarks : For similar material(s):

Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

**cyclohexanone:**

Assessment : Does not cause skin sensitization.
Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

**Propylene glycol:**

Species : human
Assessment : Does not cause skin sensitization.

**Hydrocarbons, C9, aromatics:**

Assessment : Does not cause skin sensitization.
Remarks : For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

**naphthalene:**

Assessment : Does not cause skin sensitization.
Remarks : Skin contact may cause an allergic skin reaction in a small proportion of individuals.
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

**Germ cell mutagenicity**

**Components:**

**myclobutanil(ISO):**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Germ cell mutagenicity - Assessment : For similar material(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**cyclohexanone:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative in some cases and positive in other cases., Animal genetic toxicity studies were inconclusive

**Propylene glycol:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**Hydrocarbons, C9, aromatics:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**naphthalene:**

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative in some cases and positive in other cases.

**Carcinogenicity**

**Components:**

**myclobutanil(ISO):**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Carcinogenicity - Assessment : Contains naphthalene which has caused cancer in some laboratory animals., However, the relevance of this to humans is unknown.

**cyclohexanone:**

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

Available data are inadequate to evaluate carcinogenicity.

**Propylene glycol:**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

**Hydrocarbons, C9, aromatics:**

Carcinogenicity - Assessment : Xylene was not found to be carcinogenic in a National Toxicology Program bioassay in rats and mice.

**naphthalene:**

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Has caused cancer in some laboratory animals., In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

| | | |
|---|---|---|
| **IARC** | Group 2B: Possibly carcinogenic to humans | |
| | naphthalene | 91-20-3 |
| **OSHA** | No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. | |
| **NTP** | Reasonably anticipated to be a human carcinogen | |
| | naphthalene | 91-20-3 |

**Reproductive toxicity**

**Components:**

**myclobutanil(ISO):**

Reproductive toxicity - Assessment : Suspected human reproductive toxicant

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Has been toxic to the fetus in lab animals at doses nontoxic to the mother., Did not cause birth defects in laboratory animals.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
For similar material(s):, Did not cause birth defects or any other fetal effects in laboratory animals.

**cyclohexanone:**

Reproductive toxicity - Assessment : Cyclohexanone caused reduced growth and survival of offspring in an animal reproduction study. Dose levels producing this effect also caused central nervous system effects in parental animals., In animal studies, has been shown to interfere with reproduction in males., Effects have been seen only at doses that produced significant toxicity to the parent animals.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

**Propylene glycol:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction., In animal studies, did not interfere with fertility.
Did not cause birth defects or any other fetal effects in laboratory animals.

**Hydrocarbons, C9, aromatics:**

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Has caused birth defects in laboratory animals only at doses producing severe toxicity in the mother., Exaggerated doses of xylene given orally to pregnant mice resulted in an increase

in cleft palate, a common developmental abnormality in mice. In animal inhalation studies, xylene caused toxicity to the fetus but did not cause birth defects.

**naphthalene:**

Reproductive toxicity - Assessment : Available data are inadequate to determine effects on reproduction.
Did not cause birth defects in laboratory animals.

**STOT-single exposure**

**Product:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

**Components:**

**myclobutanil(ISO):**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**cyclohexanone:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Propylene glycol:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Hydrocarbons, C9, aromatics:**

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

**naphthalene:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

**STOT-repeated exposure**

**Components:**

**myclobutanil(ISO):**

Routes of exposure : Oral
Target Organs : Liver

Assessment : May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity**

**Components:**

**myclobutanil(ISO):**

Remarks : In animals, effects have been reported on the following organs:
Liver.
Testes.
Adrenal gland.
Kidney.
Thyroid.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**cyclohexanone:**

Remarks : In animals, effects have been reported on the following organs:
Central nervous system.
Kidney.
Liver.
Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

**Propylene glycol:**

Remarks : In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

**Hydrocarbons, C9, aromatics:**

Remarks : In animals, effects have been reported on the following organs:
Blood.
Kidney.
Liver.
Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations; such effects have not been reported in humans.
For the minor component(s):
Cumene.
Eye.

**naphthalene:**

Remarks : Observations in animals include:
Respiratory effects.
Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.

Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust. Ingestion of naphthalene by humans has caused hemolytic anemia.

**Aspiration toxicity**

**Product:**
No aspiration toxicity classification

**Components:**

**myclobutanil(ISO):**
Based on physical properties, not likely to be an aspiration hazard.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**
May be fatal if swallowed and enters airways.

**cyclohexanone:**
Based on physical properties, not likely to be an aspiration hazard.

**Propylene glycol:**
Based on physical properties, not likely to be an aspiration hazard.

**Hydrocarbons, C9, aromatics:**
May be fatal if swallowed and enters airways.

**naphthalene:**
Based on physical properties, not likely to be an aspiration hazard.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Product:**

Toxicity to fish :

Remarks: Based on information for a similar material:
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50 (Oncorhynchus mykiss (rainbow trout)): 10.3 mg/l
Exposure time: 96 h
Remarks: For similar material(s):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7.1 mg/l
Exposure time: 48 h
Remarks: For similar material(s):

| | | |
|---|---|---|
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 8.2 mg/l<br>Exposure time: 72 h<br>Remarks: For similar material(s): |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 1.3 mg/l<br>End point: number of offspring<br>Exposure time: 21 d<br>Test Type: semi-static test |
| Toxicity to terrestrial organisms | : | contact LD50 (Apis mellifera (bees)): > 200 µg/bee<br>Remarks: Based on information for a similar material:<br><br>oral LD50 (Apis mellifera (bees)): > 171 µg/bee<br>Remarks: Based on information for a similar material: |

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Chronic aquatic toxicity | : | Toxic to aquatic life with long lasting effects. |

**Components:**

**myclobutanil(ISO):**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l<br>Exposure time: 96 h<br>Test Type: static test<br>Method: OECD Test Guideline 203 or Equivalent |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 17 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202 or Equivalent<br><br>LC50 (saltwater mysid Mysidopsis bahia): 0.24 mg/l<br>Exposure time: 96 h<br><br>EC50 (eastern oyster (Crassostrea virginica)): 0.72 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test |
| Toxicity to algae/aquatic plants | : | ErC50 (alga Scenedesmus sp.): 2.655 mg/l<br>End point: Growth rate inhibition<br>Exposure time: 96 h<br>Method: OECD Test Guideline 201 or Equivalent<br><br>ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.5 mg/l<br>End point: Growth rate inhibition<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to soil dwelling organisms | : | LC50 (Earthworm, Lumbricus terrestris): 250 mg/kg<br>Exposure time: 14 d |

| | | |
|---|---|---|
| Toxicity to terrestrial organisms | : | dietary LC50 (Colinus virginianus (Bobwhite quail)): > 5000 mg/kg diet.<br>Exposure time: 8 d<br><br>oral LD50 (Colinus virginianus (Bobwhite quail)): 510 mg/kg bodyweight.<br><br>contact LD50 (Apis mellifera (bees)): > 500 micrograms/bee<br>Exposure time: 48 h<br><br>oral LD50 (Apis mellifera (bees)): > 500 micrograms/bee<br>Exposure time: 48 h |

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Acute aquatic toxicity | : | Very toxic to aquatic life. |
| Chronic aquatic toxicity | : | Very toxic to aquatic life with long lasting effects. |

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

| | | |
|---|---|---|
| Toxicity to fish | : | Remarks: For similar material(s):<br>Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).<br><br>EC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l<br>Exposure time: 96 h<br><br>LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1.1 mg/l<br>Exposure time: 48 h<br>Test Type: semi-static test<br>Remarks: For similar material(s):<br><br>EL50 (Daphnia magna (Water flea)): 1.4 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l<br>Exposure time: 72 h<br>Remarks: For similar material(s):<br><br>EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3 mg/l<br>End point: Growth inhibition (cell density reduction)<br>Exposure time: 72 h<br>Test Type: static test<br>Method: OECD Test Guideline 201 |

**Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

**cyclohexanone:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 630 mg/l
Exposure time: 48 h
Test Type: static test

LC50 (Pimephales promelas (fathead minnow)): 527 - 732 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 820 mg/l
Exposure time: 24 h

Toxicity to algae/aquatic plants : LOEC (Scenedesmus quadricauda (Green algae)): 370 mg/l
Exposure time: 192 h
Method: Method Not Specified.

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Method: OECD 209 Test

**Propylene glycol:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 19,000 mg/l
End point: Growth rate inhibition
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 13,020 mg/l
End point: number of offspring
Exposure time: 7 d
Test Type: semi-static test

Toxicity to microorganisms : NOEC (Pseudomonas putida): > 20,000 mg/l
Exposure time: 18 h

**Hydrocarbons, C9, aromatics:**

Toxicity to fish : Remarks: Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50 (Oncorhynchus mykiss (rainbow trout)): 9.22 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : LC50 (saltwater mysid Mysidopsis bahia): 2.0 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.9 mg/l
Exposure time: 72 h
Remarks: For similar material(s):

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

dietary LC50 (Colinus virginianus (Bobwhite quail)): > 6500 mg/kg diet.
Exposure time: 8 d

oral LD50 (Colinus virginianus (Bobwhite quail)): > 2150 mg/kg bodyweight.
Exposure time: 21 d

**Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

**naphthalene:**

Toxicity to fish : Remarks: Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.11 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.6 - 24.1 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 0.4 mg/l
Exposure time: 72 h
Test Type: Growth rate inhibition

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Other): 0.37 mg/l
End point: mortality
Exposure time: 40 d
Test Type: flow-through

M-Factor (Chronic aquatic toxicity) : 1

**Ecotoxicology Assessment**

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**Persistence and degradability**

**Components:**

**myclobutanil(ISO):**

Biodegradability : Remarks: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Result: Not readily biodegradable.
Biodegradation: 22.4 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent
Remarks: 10-day Window: Fail

Stability in water : Test Type: Hydrolysis
Degradation half life (half-life): > 365 d

Photodegradation : Rate constant: 1.69E-11 cm3/s
Method: Measured

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Biodegradability : Result: Not biodegradable.
Remarks: For similar material(s):
Biodegradation may occur under aerobic conditions (in the presence of oxygen).
Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

**cyclohexanone:**

Biodegradability : Result: Readily biodegradable.
Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Biodegradation: 87 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent
Remarks: 10-day Window: Not applicable

Biodegradation: 90 - 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: 10-day Window: Pass

| | | |
|---|---|---|
| ThOD | : | 2.61 kg/kg |
| Photodegradation | : | Test Type: Half-life (indirect photolysis)<br>Sensitizer: OH radicals<br>Concentration: 1,500,000 1/cm3<br>Rate constant: 1.21E-11 cm3/s<br>Method: Estimated. |

**Propylene glycol:**

| | | |
|---|---|---|
| Biodegradability | : | aerobic<br>Result: Readily biodegradable.<br>Biodegradation: 81 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F or Equivalent<br>Remarks: 10-day Window: Pass<br><br>Biodegradation: 96 %<br>Exposure time: 64 d<br>Method: OECD Test Guideline 306 or Equivalent<br>Remarks: 10-day Window: Not applicable |
| Biochemical Oxygen Demand (BOD) | : | 69.000 %<br>Incubation time: 5 d<br><br>70.000 %<br>Incubation time: 10 d<br><br>86.000 %<br>Incubation time: 20 d |
| Chemical Oxygen Demand (COD) | : | 1.53 kg/kg |
| ThOD | : | 1.68 kg/kg |
| Photodegradation | : | Rate constant: 1.28E-11 cm3/s<br>Method: Estimated. |

**Hydrocarbons, C9, aromatics:**

| | | |
|---|---|---|
| Biodegradability | : | Remarks: For the major component(s):<br>Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).<br>For some component(s):<br>Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ThOD between 2.5 and 10%).<br><br>Result: Not biodegradable. |

**naphthalene:**

| | | |
|---|---|---|
| Biodegradability | : | Remarks: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). |
| Biochemical Oxygen De- | : | 57.000 % |

| | | |
|---|---|---|
| mand (BOD) | | Incubation time: 5 d<br><br>71.000 %<br>Incubation time: 10 d<br><br>71.000 %<br>Incubation time: 20 d |
| ThOD | : | 3.00 kg/kg |
| Photodegradation | : | Test Type: Half-life (indirect photolysis)<br>Sensitizer: OH radicals<br>Concentration: 1,500,000 1/cm3<br>Rate constant: 2.16E-11 cm3/s<br>Method: Estimated. |

**Bioaccumulative potential**

**Components:**

**myclobutanil(ISO):**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Oncorhynchus mykiss (rainbow trout)<br>Bioconcentration factor (BCF): 8.3 |
| Partition coefficient: n-octanol/water | : | log Pow: 3.17<br>Method: Measured<br>Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). |

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | Remarks: For similar material(s):<br>Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7). |

**cyclohexanone:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 0.81<br>Method: Measured<br>Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). |

**Propylene glycol:**

| | | |
|---|---|---|
| Bioaccumulation | : | Bioconcentration factor (BCF): 0.09<br>Method: Estimated. |
| Partition coefficient: n-octanol/water | : | log Pow: -1.07<br>Method: Measured<br>Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). |

**Hydrocarbons, C9, aromatics:**

Partition coefficient: n-octanol/water : Remarks: For the major component(s):
Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
For the minor component(s):
Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**naphthalene:**

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 40 - 300
Exposure time: 28 d
Method: Measured

Partition coefficient: n-octanol/water : log Pow: 3.3
Method: Measured
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Balance:**

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

**Mobility in soil**

**Components:**

**myclobutanil(ISO):**

Distribution among environmental compartments : Koc: 517
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Distribution among environmental compartments : Remarks: No data available.

**cyclohexanone:**

Distribution among environmental compartments : Koc: 15
Method: Estimated.
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

**Propylene glycol:**

Distribution among environmental compartments : Koc: < 1
Method: Estimated.
Remarks: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).

**Hydrocarbons, C9, aromatics:**

Distribution among environmental compartments : Remarks: No relevant data found.

**naphthalene:**

Distribution among environmental compartments : Koc: 240 - 1300
Method: Measured
Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

**Balance:**

Distribution among environmental compartments : Remarks: No relevant data found.

**Other adverse effects**

**Components:**

**myclobutanil(ISO):**

Results of PBT and vPvB 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).

Ozone-Depletion Potential : Regulation: (Update: 06/09/2011 jdm)
Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Results of PBT and vPvB 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).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**cyclohexanone:**

Results of PBT and vPvB 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).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Propylene glycol:**

Results of PBT and vPvB 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).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Hydrocarbons, C9, aromatics:**

| | | |
|---|---|---|
| Results of PBT and vPvB assessment | : | This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT). |
| Ozone-Depletion Potential | : | Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer. |

**naphthalene:**

| | | |
|---|---|---|
| Results of PBT and vPvB assessment | : | This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT). |
| Ozone-Depletion Potential | : | Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer. |

**Balance:**

| | | |
|---|---|---|
| Results of PBT and vPvB assessment | : | This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT). |
| Ozone-Depletion Potential | : | Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer. |

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.<br>If the material as supplied becomes a waste, follow all applicable regional, national and local laws. |

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**

| | | |
|---|---|---|
| UN number | : | UN 3082 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(Myclobutanil) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3082 |
| Proper shipping name | : | Environmentally hazardous substance, liquid, n.o.s. (Myclobutanil) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | Miscellaneous |
| Packing instruction (cargo aircraft) | : | 964 |
| Packing instruction (passenger aircraft) | : | 964 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 3082 |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Myclobutanil) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| EmS Code | : | F-A, S-F |
| Marine pollutant | : | yes |
| Remarks | : | Stowage category A |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**Domestic regulation**

**49 CFR**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 3082 |
| Proper shipping name | : | Environmentally hazardous substance, liquid, n.o.s. (Naphthalene, Cyclohexanone) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | CLASS 9 |
| ERG Code | : | 171 |
| Marine pollutant | : | no |

**Further information**

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

**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.

## SECTION 15. REGULATORY INFORMATION

**SARA 311/312 Hazards** : Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Serious eye damage or eye irritation

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|---|---|---|
| myclobutanil(ISO) | 88671-89-0 | >= 10 - < 20 % |
| naphthalene | 91-20-3 | >= 0.1 - < 1 % |

**US State Regulations**

**Pennsylvania Right To Know**

| | |
|---|---|
| Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified | 64742-94-5 |
| cyclohexanone | 108-94-1 |
| Propylene glycol | 57-55-6 |

**California Prop. 65**

WARNING: This product can expose you to chemicals including naphthalene, which is/are known to the State of California to cause cancer, and myclobutanil(ISO), N-methyl-2-pyrrolidone, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

**The ingredients of this product are reported in the following inventories:**

TSCA : Product contains substance(s) not listed on TSCA inventory.

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**Federal Insecticide, Fungicide and Rodenticide Act**

EPA Registration Number : 62719-463

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation
Harmful if swallowed or absorbed through the skin

## SECTION 16. OTHER INFORMATION

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| Corteva OEL | : | Corteva Occupational Exposure Limit |
| Dow IHG | : | Dow Industrial Hygiene Guideline |
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| US WEEL | : | USA. Workplace Environmental Exposure Levels (WEEL) |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | : | Short-term exposure limit |
| Corteva OEL / STEL | : | Short term exposure limit |
| Corteva OEL / TWA | : | Time weighted average |
| Dow IHG / TWA | : | Time Weighted Average (TWA): |
| Dow IHG / STEL | : | Short term exposure limit |
| Dow IHG / TWA | : | Time weighted average |
| OSHA Z-1 / TWA | : | 8-hour time weighted average |
| US WEEL / TWA | : | 8-hr TWA |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Sub-

stance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 02/25/2022

Product code: GF-1317

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.

US / EN