

# SAFETY DATA SHEET

Corteva Agriscience UK Ltd

Safety Data Sheet according to Reg. (EU) No 2015/830

**Product name: SYSTHANE 20 EW**

**Revision Date: 10.12.2020**

**Version: 4.5**

**Date of last issue: 24.09.2019**

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Corteva Agriscience UK Ltd 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.

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## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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### 1.1 Product identifier

**Product name:** SYSTHANE 20 EW

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

**Identified uses:** Plant Protection Product Fungicide

### 1.3 Details of the supplier of the safety data sheet

#### COMPANY IDENTIFICATION

Corteva Agriscience UK Ltd  
CPC2 CAPITAL PARK  
FULBOURN CAMBRIDGE - England - CB21 5XE  
UNITED KINGDOM

**Customer Information Number** : +44 8006 89 8899  
**E-mail address** : SDS@corteva.com

### 1.4 EMERGENCY TELEPHONE

**24-Hour Emergency Contact** : +44 161 88 41235

**Local Emergency Contact** : +44 161 88 41235

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## SECTION 2: HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008:

Eye irritation - Category 2 - H319

Reproductive toxicity - Category 2 - H361

Specific target organ toxicity - repeated exposure - Category 2 - Oral - H373

Long-term (chronic) aquatic hazard - Category 2 - H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008:

**Hazard pictograms****Signal Word: WARNING****Hazard statements**

H319 Causes serious eye irritation.  
 H361d Suspected of damaging the unborn child.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P202 Do not handle until all safety precautions have been read and understood.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 + P338  
 P314 Get medical advice/ attention if you feel unwell.  
 P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

**Supplemental information**

EUH066 Repeated exposure may cause skin dryness or cracking.  
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

**Contains** myclobutanil (ISO)**2.3 Other hazards**

No data available

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**


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**3.2 Mixtures**

This product is a mixture.

| CASRN /<br>EC-No. /<br>Index-No. | REACH<br>Registration<br>Number | Concentration | Component | Classification:<br>REGULATION (EC) No<br>1272/2008 |
|----------------------------------|---------------------------------|---------------|-----------|----------------------------------------------------|
|----------------------------------|---------------------------------|---------------|-----------|----------------------------------------------------|

|                                                                                              |                  |                   |                                                                                      |                                                                                                                                                   |
|----------------------------------------------------------------------------------------------|------------------|-------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CASRN</b><br>88671-89-0<br><b>EC-No.</b><br>410-400-0<br><b>Index-No.</b><br>613-134-00-5 | –                | 20.055%           | myclobutanil (ISO)                                                                   | Acute Tox. - 4 - H302<br>Eye Irrit. - 2 - H319<br>Repr. - 2 - H361d<br>STOT RE - 2 - H373<br>Aquatic Chronic - 2 - H411                           |
| <b>CASRN</b><br>not available<br><b>EC-No.</b><br>922-153-0<br><b>Index-No.</b><br>–         | 01-2119451097-39 | > 20.0 - < 30.0 % | Hydrocarbons,<br>C10-C13,<br>aromatics, <1%<br>naphthalene                           | Asp. Tox. - 1 - H304<br>Aquatic Chronic - 2 - H411                                                                                                |
| <b>CASRN</b><br>108-94-1<br><b>EC-No.</b><br>203-631-1<br><b>Index-No.</b><br>606-010-00-7   | 01-2119453616-35 | > 10.0 - < 20.0 % | cyclohexanone                                                                        | Flam. Liq. - 3 - H226<br>Acute Tox. - 4 - H302<br>Acute Tox. - 4 - H332<br>Acute Tox. - 3 - H311<br>Skin Irrit. - 2 - H315<br>Eye Dam. - 1 - H318 |
| <b>CASRN</b><br>57-55-6<br><b>EC-No.</b><br>200-338-0<br><b>Index-No.</b><br>–               | 01-2119456809-23 | >= 3.0 - < 10.0 % | Propylene glycol                                                                     | Not classified                                                                                                                                    |
| <b>CASRN</b><br>Not available<br><b>EC-No.</b><br>918-668-5<br><b>Index-No.</b><br>–         | 01-2119455851-35 | >= 1.0 - < 3.0 %  | Hydrocarbons, C9,<br>aromatics                                                       | Flam. Liq. - 3 - H226<br>STOT SE - 3 - H335<br>STOT SE - 3 - H336<br>Asp. Tox. - 1 - H304<br>Aquatic Chronic - 2 - H411                           |
| <b>CASRN</b><br>68953-96-8<br><b>EC-No.</b><br>273-234-6<br><b>Index-No.</b><br>–            | 01-2119964467-24 | >= 0.3 - < 1.0 %  | Benzenesulfonic<br>acid, mono-C11-13-<br>branched alkyl<br>derivs., calcium<br>salts | Acute Tox. - 4 - H312<br>Skin Irrit. - 2 - H315<br>Eye Dam. - 1 - H318<br>Aquatic Chronic - 2 - H411                                              |
| <b>CASRN</b><br>1189173-42-9<br><b>EC-No.</b><br>918-811-1<br><b>Index-No.</b><br>–          | 01-2119463583-34 | >= 0.3 - < 1.0 %  | Hydrocarbons, C10,<br>aromatics, <1%<br>naphthalene                                  | STOT SE - 3 - H336<br>Asp. Tox. - 1 - H304<br>Aquatic Chronic - 2 - H411                                                                          |
| <b>CASRN</b><br>91-20-3<br><b>EC-No.</b><br>202-049-5<br><b>Index-No.</b><br>601-052-00-2    | –                | >= 0.1 - < 0.3 %  | Naphthalene                                                                          | Acute Tox. - 4 - H302<br>Carc. - 2 - H351<br>Aquatic Acute - 1 - H400<br>Aquatic Chronic - 1 - H410                                               |

If present in this product, any not classified components disclosed above for which no country specific OEL value(s) is(are) indicated under Section 8, are being disclosed as voluntarily disclosed components.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### General advice:

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.

**Inhalation:** 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.

**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.

**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.

**Ingestion:** 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.

### 4.2 Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**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.

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## SECTION 5: FIREFIGHTING MEASURES

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### 5.1 Extinguishing media

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.

**Unsuitable extinguishing media:** No data available

### 5.2 Special hazards arising from the substance or mixture

**Hazardous combustion products:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen cyanide. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** This material will not burn until the water has evaporated. Residue can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

### 5.3 Advice for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**6.1 Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**6.2 Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**6.3 Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact the company for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

**6.4 Reference to other sections:** References to other sections, if applicable, have been provided in the previous sub-sections.

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## SECTION 7: HANDLING AND STORAGE

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**7.1 Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**7.2 Conditions for safe storage, including any incompatibilities:** Store in a dry place. Store in original container. Keep container tightly closed. Do not store near food, foodstuffs, drugs or potable water supplies.

### Storage stability

To maintain product quality, recommended storage temperature is -5 °C

**7.3 Specific end use(s):** Refer to product label.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### 8.2 Exposure controls

**Engineering controls:** 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.

#### Individual protection measures

**Eye/face protection:** Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator (meeting standard EN 136) with organic vapor cartridge (meeting standard EN 14387).

#### Skin protection

**Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. 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"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer

lamine gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. **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 workplace 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.

**Other 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.

**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.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (meeting standard EN 14387).

### Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

#### Appearance

|                                        |                                                                |
|----------------------------------------|----------------------------------------------------------------|
| Physical state                         | Liquid.                                                        |
| Color                                  | White                                                          |
| Odor                                   | Ester.                                                         |
| Odor Threshold                         | No test data available                                         |
| pH                                     | 6.57 100% CIPAC MT 75 (neat)                                   |
| Melting point/range                    | Not applicable                                                 |
| Freezing point                         | No data available                                              |
| Boiling point (760 mmHg)               | No test data available                                         |
| Flash point                            | <b>closed cup</b> > 100 °C CIPAC MT 12.3                       |
| Evaporation Rate (Butyl Acetate = 1)   | No test data available                                         |
| Flammability (solid, gas)              | No data available                                              |
| Lower explosion limit                  | No test data available                                         |
| Upper explosion limit                  | No test data available                                         |
| Vapor Pressure                         | No test data available                                         |
| Relative Vapor Density (air = 1)       | No test data available                                         |
| Relative Density (water = 1)           | 1.031 at 20 °C / 4 °C Digital Density Meter (Oscillating Coil) |
| Water solubility                       | emulsifiable                                                   |
| Partition coefficient: n-octanol/water | No data available                                              |
| Auto-ignition temperature              | No test data available                                         |

|                                  |                        |
|----------------------------------|------------------------|
| <b>Decomposition temperature</b> | No data available      |
| <b>Dynamic Viscosity</b>         | 2,484 cP at 25 °C      |
| <b>Kinematic Viscosity</b>       | No test data available |
| <b>Explosive properties</b>      | No                     |
| <b>Oxidizing properties</b>      | No                     |

## 9.2 Other information

|                         |                                                              |
|-------------------------|--------------------------------------------------------------|
| <b>Liquid Density</b>   | 1.03 g/cm <sup>3</sup> at 20 °C <i>Digital density meter</i> |
| <b>Molecular weight</b> | No data available                                            |
| <b>Surface tension</b>  | 38.2 mN/m at 25 °C <i>EC Method A5</i>                       |

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## SECTION 10: STABILITY AND REACTIVITY

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**10.1 Reactivity:** No data available

**10.2 Chemical stability:** No data available

**10.3 Possibility of hazardous reactions:** No data available

**10.4 Conditions to avoid:** No data available

**10.5 Incompatible materials:** No data available

**10.6 Hazardous decomposition products**  
No hazardous decomposition products are known.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Excessive exposure may cause neurologic signs and symptoms. Observations in animals include: Convulsions. Muscle spasms or twitches.

As product: Single dose oral LD50 has not been determined. For similar material(s): LD50, Rat, female, 3,749 mg/kg

##### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.



As product: The dermal LD50 has not been determined. For similar material(s):  
LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

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.

As product: The LC50 has not been determined.  
LC50, Rat, Aerosol, > 5 mg/l Estimated.

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause moderate eye irritation.

May cause slight corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

In humans, eye irritation resulted from brief (minutes) exposure to cyclohexanone vapor concentration of 50 ppm and above.

**Sensitization**

For similar material(s):

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

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

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

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient(s):

In animals, effects have been reported on the following organs:

Adrenal gland.

Kidney.

Liver.

Testes.

Thyroid.

Based on information for component(s):

In animals, effects have been reported on the following organs:

Kidney.

Liver.

Blood.

Central nervous system.

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

**Carcinogenicity**

Active ingredient did not cause cancer in laboratory animals.

**Teratogenicity**

For the active ingredient(s): Has been toxic to the fetus in lab animals at doses nontoxic to the mother. Did not cause birth defects in laboratory animals.

For the minor component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses producing severe toxicity in the mother.

**Reproductive toxicity**

For the active ingredient(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

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.

**Mutagenicity**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

For the minor component(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were inconclusive

**Aspiration Hazard**

No aspiration toxicity classification

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**SECTION 12: ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**12.1 Toxicity****Acute toxicity to fish**

Based on information for a similar material:

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

For similar material(s):

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 10.3 mg/l

**Acute toxicity to aquatic invertebrates**

For similar material(s):

EC50, Daphnia magna (Water flea), 48 Hour, 7.1 mg/l

**Acute toxicity to algae/aquatic plants**

For similar material(s):

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 8.2 mg/l

**Long-term (chronic) aquatic hazard****Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 1.3 mg/l

**Toxicity to Above Ground Organisms**

Based on information for a similar material:

contact LD50, Apis mellifera (bees), > 200µg/bee

Based on information for a similar material:

oral LD50, Apis mellifera (bees), > 171µg/bee

**12.2 Persistence and degradability****myclobutanil (ISO)**

**Biodegradability:** 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.

10-day Window: Fail

**Biodegradation:** 22.4 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D or Equivalent

**Stability in Water (1/2-life)**

Hydrolysis, half-life, > 365 d

**Photodegradation**

**Atmospheric half-life:** 7.6 Hour

**Method:** Measured

**Hydrocarbons, C10-C13, aromatics, <1% naphthalene**

**Biodegradability:** 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.

**cyclohexanone**

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

10-day Window: Not applicable

**Biodegradation:** 87 %

**Exposure time:** 14 d

**Method:** OECD Test Guideline 301C or Equivalent

10-day Window: Pass

**Biodegradation:** 90 - 100 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

**Propylene glycol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

**Biodegradation:** 81 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 96 %

**Exposure time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent

#### **Hydrocarbons, C9, aromatics**

**Biodegradability:** For the major component(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. For some component(s): 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.

#### **Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 2.9 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301E or Equivalent

#### **Hydrocarbons, C10, aromatics, <1% naphthalene**

**Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

#### **Naphthalene**

**Biodegradability:** Material is expected to be readily biodegradable.

### **12.3 Bioaccumulative potential**

#### **myclobutanil (ISO)**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 3.17 Measured

**Bioconcentration factor (BCF):** 8.3 Oncorhynchus mykiss (rainbow trout)

#### **Hydrocarbons, C10-C13, aromatics, <1% naphthalene**

**Bioaccumulation:** No data available for this product. For similar material(s): Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

#### **cyclohexanone**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.81 Measured

#### **Propylene glycol**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** -1.07 Measured

**Bioconcentration factor (BCF):** 0.09 Estimated.

#### **Hydrocarbons, C9, aromatics**

**Bioaccumulation:** 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).

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 4.6 OECD Test Guideline 107 or Equivalent

**Hydrocarbons, C10, aromatics, <1% naphthalene**

**Bioaccumulation:** No data available for this product. For similar material(s): Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Naphthalene**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.3 Measured

**Bioconcentration factor (BCF):** 40 - 300 Fish 28 d Measured

**12.4 Mobility in soil****myclobutanil (ISO)**

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.

**Partition coefficient (Koc):** 517

**Hydrocarbons, C10-C13, aromatics, <1% naphthalene**

No relevant data found.

**cyclohexanone**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** 15 Estimated.

**Propylene glycol**

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).

**Partition coefficient (Koc):** < 1 Estimated.

**Hydrocarbons, C9, aromatics**

No relevant data found.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

No relevant data found.

**Hydrocarbons, C10, aromatics, <1% naphthalene**

No relevant data found.

**Naphthalene**

Potential for mobility in soil is medium (Koc between 150 and 500).

**Partition coefficient (Koc):** 240 - 1300 Measured

**12.5 Results of PBT and vPvB assessment****myclobutanil (ISO)**

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).

**Hydrocarbons, C10-C13, aromatics, <1% naphthalene**

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).

**cyclohexanone**

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).

**Propylene glycol**

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).

**Hydrocarbons, C9, aromatics**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

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).

**Hydrocarbons, C10, aromatics, <1% naphthalene**

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).

**Naphthalene**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

## 12.6 Other adverse effects

**myclobutanil (ISO)**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Hydrocarbons, C10-C13, aromatics, <1% naphthalene**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**cyclohexanone**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Propylene glycol**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Hydrocarbons, C9, aromatics**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Hydrocarbons, C10, aromatics, <1% naphthalene**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Naphthalene**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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### 13.1 Waste treatment methods

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

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## SECTION 14: TRANSPORT INFORMATION

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### Classification for ROAD and Rail transport (ADR/RID):

- |                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| 14.1 UN number                    | UN 3082                                                           |
| 14.2 UN proper shipping name      | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Myclobutanil) |
| 14.3 Transport hazard class(es)   | 9                                                                 |
| 14.4 Packing group                | III                                                               |
| 14.5 Environmental hazards        | Myclobutanil                                                      |
| 14.6 Special precautions for user | Hazard Identification Number: 90                                  |

### Classification for SEA transport (IMO-IMDG):

- |                                                                                           |                                                                   |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 14.1 UN number                                                                            | UN 3082                                                           |
| 14.2 UN proper shipping name                                                              | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Myclobutanil) |
| 14.3 Transport hazard class(es)                                                           | 9                                                                 |
| 14.4 Packing group                                                                        | III                                                               |
| 14.5 Environmental hazards                                                                | Myclobutanil                                                      |
| 14.6 Special precautions for user                                                         | EmS: F-A, S-F                                                     |
| 14.7 Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code | Consult IMO regulations before transporting ocean bulk            |

### Classification for AIR transport (IATA/ICAO):

- |                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| 14.1 UN number                    | UN 3082                                                           |
| 14.2 UN proper shipping name      | Environmentally hazardous substance, liquid, n.o.s.(Myclobutanil) |
| 14.3 Transport hazard class(es)   | 9                                                                 |
| 14.4 Packing group                | III                                                               |
| 14.5 Environmental hazards        | Not applicable                                                    |
| 14.6 Special precautions for user | No data available.                                                |

**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 5 L 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.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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**SECTION 15: REGULATORY INFORMATION**

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**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****REACH Regulation (EC) No 1907/2006**

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

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

Listed in Regulation: ENVIRONMENTAL HAZARDS

Number in Regulation: E2

200 t

500 t

Listed in Regulation: Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams), (d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Number in Regulation: 34

2,500 t

25,000 t

**15.2 Chemical safety assessment**

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



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## SECTION 16: OTHER INFORMATION

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### Full text of H-Statements referred to under sections 2 and 3.

|       |                                                                    |
|-------|--------------------------------------------------------------------|
| H226  | Flammable liquid and vapor.                                        |
| H302  | Harmful if swallowed.                                              |
| H304  | May be fatal if swallowed and enters airways.                      |
| H311  | Toxic in contact with skin.                                        |
| H312  | Harmful in contact with skin.                                      |
| H315  | Causes skin irritation.                                            |
| H318  | Causes serious eye damage.                                         |
| H319  | Causes serious eye irritation.                                     |
| H332  | Harmful if inhaled.                                                |
| H335  | May cause respiratory irritation.                                  |
| H336  | May cause drowsiness or dizziness.                                 |
| H351  | Suspected of causing cancer.                                       |
| H361  | Suspected of damaging fertility or the unborn child.               |
| H361d | 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.              |
| H411  | Toxic to aquatic life with long lasting effects.                   |

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Eye Irrit. - 2 - H319 - Based on product data or assessment

Repr. - 2 - H361 - Calculation method

STOT RE - 2 - H373 - Calculation method

Aquatic Chronic - 2 - H411 - Based on product data or assessment

### Revision

Identification Number: / Issue Date: 10.12.2020 / Version: 4.5

DAS Code: GF-1317

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

|                 |                                                    |
|-----------------|----------------------------------------------------|
| Acute Tox.      | Acute toxicity                                     |
| Aquatic Acute   | Short-term (acute) aquatic hazard                  |
| Aquatic Chronic | Long-term (chronic) aquatic hazard                 |
| Asp. Tox.       | Aspiration hazard                                  |
| Carc.           | Carcinogenicity                                    |
| Eye Dam.        | Serious eye damage                                 |
| Eye Irrit.      | Eye irritation                                     |
| Flam. Liq.      | Flammable liquids                                  |
| Repr.           | Reproductive toxicity                              |
| Skin Irrit.     | Skin irritation                                    |
| STOT RE         | Specific target organ toxicity - repeated exposure |
| STOT SE         | Specific target organ toxicity - single exposure   |

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### 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.

Corteva Agriscience UK Ltd urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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