

**COMODOR 480 SC**

Version 7 - This version replaces all previous versions.

Revision Date 22.09.2015

Print Date 22.09.2015

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier****Product name** : COMODOR 480 SC**Design code** : A14111B**1.2 Relevant identified uses of the substance or mixture and uses advised against****Use** : Fungicide**1.3 Details of the supplier of the safety data sheet****Company** : Syngenta Crop Protection AG  
Postfach  
CH-4002 Basel  
Switzerland**Telephone** : +41 61 323 11 11**Telefax** : +41 61 323 12 12**E-mail address** : sds.ch@syngenta.com**1.4 Emergency telephone number****Emergency telephone number** : +44 1484 538444**SECTION 2: HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Classification according to Regulation (EU) 1272/2008

Skin sensitisation	Category 1	H317
Serious eye damage	Category 1	H318
Acute toxicity (Inhalation)	Category 4	H332
Specific target organ toxicity - single exposure	Category 3	H335
Carcinogenicity	Category 2	H351
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 1	H410

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

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### 2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms



<b>Signal word</b>	:	Danger
<b>Hazard statements</b>	:	<p>H317 May cause an allergic skin reaction.</p> <p>H318 Causes serious eye damage.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H351 Suspected of causing cancer.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p>
<b>Precautionary statements</b>	:	<p>P102 Keep out of reach of children.</p> <p>P201 Obtain special instructions before use.</p> <p>P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER/doctor</p> <p>P391 Collect spillage.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P501 Dispose of contents/ container to an approved waste disposal plant.</p>
<b>Supplemental information</b>	:	<p>EUH208 Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.</p> <p>EUH401 To avoid risks to human health and the environment, comply with the instructions for use.</p>

Hazardous components which must be listed on the label:

- azoxystrobin
- chlorothalonil

### 2.3 Other hazards

None known.

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

##### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration
chlorothalonil	1897-45-6 1897-45-6 217-588-1 217-588-1	T+, N R26 R37 R40 R41 R43 R50/53	Skin Sens.1; H317 Eye Dam.1; H318 Acute Tox.2; H330 STOT SE3; H335 Carc.2; H351 Aquatic Acute1; H400 Aquatic Chronic1; H410	32.8 % W/W
azoxystrobin	131860-33-8	T, N R23 R50/53	Acute Tox.3; H331 Aquatic Acute1; H400 Aquatic Chronic1; H410	6.6 % W/W
propane-1,2-diol	57-55-6 57-55-6 200-338-0		-	1 - 5 % W/W
fatty alcohol ethox- ylate		Xn R22 R41	Acute Tox.4; H302 Eye Dam.1; H318	1 - 5 % W/W
poly(oxy-1,2-ethan ediyl) alpha un- decyl- omega -hydroxy-, branched and linear	127036-24-2		Acute Tox.4; H302 Eye Dam.1; H318	1 - 5 % W/W

Substances for which there are Community workplace exposure limits.

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

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures

- Inhalation** : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- Skin contact** : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- Eye contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.

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**Ingestion** : If swallowed, seek medical advice immediately and show this container or label.  
Do NOT induce vomiting.

**4.2 Most important symptoms and effects, both acute and delayed**

**Symptoms** : No information available.

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

**Medical advice** : There is no specific antidote available.  
Treat symptomatically.

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**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media**

Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam  
or  
Water spray

Do not use a solid water stream as it may scatter and spread fire.

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

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.

**5.3 Advice for firefighters**

Wear full protective clothing and self-contained breathing apparatus.

Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Refer to protective measures listed in sections 7 and 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### 6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

Refer to disposal considerations listed in section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

No special protective measures against fire required.

Avoid contact with skin and eyes.

When using do not eat, drink or smoke.

For personal protection see section 8.

### 7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required.

Keep containers tightly closed in a dry, cool and well-ventilated place.

Keep out of the reach of children.

Keep away from food, drink and animal feedingstuffs.

- : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

### 7.3 Specific end use(s)

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

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit	Source
azoxystrobin	4 mg/m <sup>3</sup>	8 h TWA	SYNGENTA
chlorothalonil	0.1 mg/m <sup>3</sup>	8 h TWA	SYNGENTA
propane-1,2-diol	10 mg/m <sup>3</sup> (Particulates) 150 ppm, 470 mg/m <sup>3</sup> (Total (vapour & particulates))	8 h TWA 8 h TWA	UK HSE UK HSE

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The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

**8.2 Exposure controls**

- Engineering measures** : Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.  
The extent of these protection measures depends on the actual risks in use.  
If airborne mists or vapors are generated, use local exhaust ventilation controls.  
Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.  
Where necessary, seek additional occupational hygiene advice.
- Protective measures** : The use of technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.  
Personal protective equipment should be certified to appropriate standards.
- Respiratory protection** : A particulate filter respirator may be necessary until effective technical measures are installed.  
Protection provided by air-purifying respirators is limited.  
Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection** : Suitable material:Nitrile rubber  
Break through time: > 480 min  
Glove thickness: 0.5 mm  
Chemical resistant gloves should be used.  
Gloves should be certified to an appropriate standard.  
Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure.  
The breakthrough time of gloves varies according to the thickness, material and manufacturer.  
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection** : If eye contact is possible, use tight-fitting chemical safety goggles and a face shield.
- Skin and body protection** : Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material.  
Wash with soap and water after removing protective clothing.  
Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.)  
Wear as appropriate:  
impervious protective suit

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	: liquid
<b>Form</b>	: liquid
<b>Colour</b>	: white grey to light beige
<b>Odour</b>	: sweet
<b>Odour Threshold</b>	: No data available
<b>pH</b>	: 4 - 8 at 1 % w/v
<b>Melting point/range</b>	: No data available
<b>Boiling point/boiling range</b>	: No data available
<b>Flash point</b>	: > 100 °C at 753 mmHg
<b>Evaporation rate</b>	: No data available
<b>Flammability (solid, gas)</b>	: No data available
<b>Lower explosion limit</b>	: No data available
<b>Upper explosion limit</b>	: No data available
<b>Vapour pressure</b>	: No data available
<b>Relative vapour density</b>	: No data available
<b>Density</b>	: 1.22 g/cm <sup>3</sup> at 25 °C
<b>Solubility in other solvents</b>	: No data available
<b>Partition coefficient: n-octanol/water</b>	: No data available
<b>Auto-ignition temperature</b>	: > 650 °C
<b>Thermal decomposition</b>	: No data available
<b>Viscosity, dynamic</b>	: 87.0 - 572 mPa.s at 20 °C : 65.0 - 495 mPa.s at 40 °C
<b>Viscosity, kinematic</b>	: No data available
<b>Explosive properties</b>	: Not explosive
<b>Oxidizing properties</b>	: not oxidizing

**9.2 Other information****Surface tension** : 29.5 mN/m at 20 °C**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity**

See section 10.3 "Possibility of hazardous reactions".

**10.2 Chemical stability**

The product is stable when used in normal conditions

**10.3 Possibility of hazardous reactions**

No hazardous reactions by normal handling and storage according to provisions.

**10.4 Conditions to avoid**

No decomposition if used as directed.

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### 10.5 Incompatible materials

No substances are known which lead to the formation of hazardous substances or thermal reactions.

### 10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapors.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute oral toxicity** : LD50 female Rat, > 3,045 mg/kg

**Acute inhalation toxicity** : LC50 male and female Rat, > 1.06 mg/l, 4 h  
Irritating to respiratory system.

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

**Skin corrosion/irritation** : Rabbit: Slightly irritating

**Serious eye damage/eye irritation** : Rabbit: Severely Irritating

**Respiratory or skin sensitisation** : man: May cause sensitisation by skin contact.  
Derived from components.

#### Germ cell mutagenicity

chlorothalonil : Did not show mutagenic effects in animal experiments.

azoxystrobin : Did not show mutagenic effects in animal experiments.

#### Carcinogenicity

chlorothalonil : Chlorothalonil causes kidney tumours in rats and mice via a non-gentoxic mode of action secondary to target organ toxicity.

azoxystrobin : Did not show carcinogenic effects in animal experiments.

#### Teratogenicity

chlorothalonil : Did not show teratogenic effects in animal experiments.

#### Reproductive toxicity

chlorothalonil : Did not show reproductive toxicity effects in animal experiments.

azoxystrobin : Did not show reproductive toxicity effects in animal experiments.

#### STOT - single exposure

chlorothalonil : May cause respiratory irritation.

#### STOT - repeated exposure

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

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

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## SECTION 12: ECOLOGICAL INFORMATION



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**12.1 Toxicity**

- Toxicity to fish** : LC50 *Oncorhynchus mykiss* (rainbow trout), 0.15 mg/l , 96 h
- Toxicity to aquatic invertebrates** : EC50 *Daphnia magna* (Water flea), 0.37 mg/l , 48 h
- Toxicity to aquatic plants** : EbC50 *Pseudokirchneriella subcapitata* (green algae), 0.11 mg/l , 72 h  
: ErC50 *Pseudokirchneriella subcapitata* (green algae), 0.69 mg/l , 72 h

**12.2 Persistence and degradability**Biodegradability

- azoxystrobin : Not readily biodegradable.

## Stability in water

- chlorothalonil : Degradation half life: < 5 d at 20 °C  
Not persistent in water.
- azoxystrobin : Degradation half life: 214 d  
The substance is stable in water.

## Stability in soil

- chlorothalonil : Degradation half life: ca. 7 d  
Not persistent in soil.
- azoxystrobin : Degradation half life: 80 d  
Not persistent in soil.

**12.3 Bioaccumulative potential**

- chlorothalonil : Chlorothalonil has low potential for bioaccumulation.
- azoxystrobin : Does not bioaccumulate.

**12.4 Mobility in soil**

- chlorothalonil : Chlorothalonil has low to slight mobility in soil.
- azoxystrobin : Azoxystrobin has low to very high mobility in soil.

**12.5 Results of PBT and vPvB assessment**

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

**12.6 Other adverse effects**

- Other information** : Classification of the product is based on the summation of the concentrations of classified components.

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**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

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

**SECTION 14: TRANSPORT INFORMATION****Land transport (ADR/RID)**

- 14.1 UN number:** UN 3082  
**14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN AND CHLOROTHALONIL)  
**14.3 Transport hazard class(es):** 9  
**14.4 Packing group:** III  
Labels: 9  
**14.5 Environmental hazards :** Environmentally hazardous  
**Tunnel restriction code:** E

**Sea transport(IMDG)**

- 14.1 UN number:** UN 3082  
**14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN AND CHLOROTHALONIL)  
**14.3 Transport hazard class(es):** 9  
**14.4 Packing group:** III  
Labels: 9  
**14.5 Environmental hazards :** Marine pollutant

**Air transport (IATA-DGR)**

- 14.1 UN number:** UN 3082  
**14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (AZOXYSTROBIN AND CHLOROTHALONIL)  
**14.3 Transport hazard class(es):** 9  
**14.4 Packing group:** III  
Labels: 9

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### 14.6 Special precautions for user

none

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

Not applicable

## SECTION 15: REGULATORY INFORMATION

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

GHS-Labeling

Hazard pictograms



<b>Signal word</b>	:	Danger
<b>Hazard statements</b>	:	H303 May be harmful if swallowed. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer. H410 Very toxic to aquatic life with long lasting effects.
<b>Precautionary statements</b>	:	P102 Keep out of reach of children. P201 Obtain special instructions before use. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor P391 Collect spillage. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/ container to an approved waste disposal plant.
<b>Supplemental information</b>	:	EUH208 Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

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Hazardous components which must be listed on the label:

- azoxystrobin
- chlorothalonil

**15.2 Chemical Safety Assessment**

A Chemical Safety Assessment is not required for this substance.

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**SECTION 16: OTHER INFORMATION****Further information**

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

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; 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; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; 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; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; 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; UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECl - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

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