



Toprex®

syngenta.

GROUP 3 FUNGICIDE

Product registration no.

MAPP 16456.

PCS No. 05206



A suspension concentrate containing 125 g/l (11.3% w/w) paclobutrazol and 250 g/l (22.5% w/w) difenoconazole

A plant growth regulator and fungicide with contact and systemic activity against Phoma leaf spot and Light leaf spot (*Pyrenopeziza brassicae*) in winter oilseed rape.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work. (UK only)

Authorisation Holder & UK Marketing Company	Irish Marketing Company
Syngenta UK Limited CPC 4, Capital Park, Fulbourn Cambridge CB21 5XE Tel: +44 (0) 1223 883400	Syngenta Ireland Ltd., Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford Tel: (051) 377203

**In case of toxic or transport emergency ring
+44 (0)1484 538444 any time**

**PROTECT FROM FROST
STORE IN A COOL, DRY PLACE**

This product label is
compliant with the CPA
Voluntary Initiative (VI)
guidance. (UK only)



The
Voluntary
Initiative

1 Litre

TOPREX®

FOR PROFESSIONAL USE

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

A suspension concentrate containing 125 g/l (11.3% w/w) paclobutrazol and 250 g/l (22.5% w/w) difenoconazole



Warning

Suspected of damaging the unborn child.

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

If exposed or concerned: Get medical advice/attention.

Collect spillages.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed empty clean containers which can be disposed of as non-hazardous waste.

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

Contains 1,2-benzisothiazol-3-one. May produce an allergic reaction.

MAPP 16456 PCS No. 05206 UFI: Y0H7-63SE-K003-WFH4

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE

Crop	Maximum individual dose (litres product/hectare)	Maximum no. of treatments	Latest timing of application
Oilseed rape (winter)	0.35	1 per crop	Up to GS 55

Other specific restrictions:

To be used when both disease control and plant growth regulation are required.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

This leaflet is part of the approved Product Label.

SAFETY PRECAUTIONS

(a) Operator protection

DO NOT APPLY by hand held equipment.

WASH SPLASHES from skin immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

FOR USE VIA TRACTOR MOUNTED/TRAILED HORIZONTAL BOOM SPRAYER ONLY.

(b) Environmental protection (LERAP scheme applies to the UK only)

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirements.



DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 m of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water.

This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, a LERAP must be carried out in accordance with CRD's published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection for three years.

Do not contaminate water with product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

(c) Storage and disposal

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times.

Add washings to sprayer at time of filling and dispose of safely.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

A suspension concentrate containing 125 g/l paclobutrazol and 250 g/l difenoconazole. TOPREX contains a plant growth regulator (paclobutrazol) for crop height reduction and lodging control and fungicide (difenoconazole) with contact and systemic activity against Phoma leaf spot and Light leaf spot (Pyrenopeziza brassicae) in winter oilseed rape. TOPREX must only be used when both disease control and plant growth regulation are required simultaneously. If disease control and growth regulation are not required at the same time, appropriate fungicide products or growth regulator products should be used separately instead.

Please consult seed contract customer, before using TOPREX on crops to be grown for seed.

DISEASES CONTROLLED

TOPREX controls moderate infections of Phoma leaf spot and Light leaf spot (Pyrenopeziza brassicae) in winter oilseed rape. Inspect crops to assess disease development prior to spraying. Apply when disease thresholds have been breached according to appropriate disease support systems.

CROP SPECIFIC INFORMATION

Winter oilseed rape

Phoma leaf spot

Apply to actively growing crops. Stem canker present as a result of autumn infection will not be controlled.

Light leaf spot (Pyrenopeziza brassicae)

Apply in early spring from the onset of stem extension, depending on disease pressure.

Timing of application

Disease control considerations

Apply in spring to actively growing crops with a large canopy where disease thresholds are breached and monitoring systems indicate a risk of disease development. In high disease risk situations the use of additional difenoconazole fungicide (i.e. tank mixture with PLOVER 0.15 l/ha) may be required to enhance disease control.

Plant growth regulation considerations

Apply in spring from early stem extension to green bud to shorten the crop, reduce lodging and protect yield.

In spring, plant growth regulation is not appropriate in backward crops where the crop GAI (Green Area Index) is under 1.0 in March or 2.0 in April (see HGCA Topic Sheet No. 82; Managing forward crops of oilseed rape).

Avoid use of TOPREX in cold conditions, when the crop is not growing, as plant growth regulation may be reduced.

Avoid spray drift to adjacent crops and other non-target plants.

MIXING AND SPRAYING

Mixing

Make sure the sprayer is set to give an even application at the correct volume.

Fill the spray tank with half the required volume of clean water and start agitation. Add the required amount of TOPREX and continue agitation while adding the rest of the water.

If using PLOVER to supplement TOPREX, each product should be added separately to the bulk of the water in the spray tank, and thoroughly mixed before adding the partner product. Maintain constant agitation of the mixture until spraying is completed.

Immediately after use, clean the spray equipment thoroughly. Drain the system completely and rinse spray tank, boom and nozzles two to three times with clean water until the foam and all traces of the formulation have been removed.

Spray Volume

Apply TOPREX to winter oilseed rape in 200 litres water per hectare

Spraying

Apply as a MEDIUM quality spray as defined by BCPC. A spray pressure of 2-3 bars is preferred.

Following Crops

In normal rotations, only cereals may be sown after 'TOPREX' treated winter oilseed rape. In the case of crop failure following 'TOPREX' treatment, cereals may be used as the replacement crop, as long as 1 month has elapsed since the last 'TOPREX' application. Broad-leaved crops (including winter oilseed rape) should not be sown for at least 16 months* after the last 'TOPREX' treatment.

* Solanaceous crops (potatoes and tomatoes) should not be sown within 3 years of the last 'TOPREX' treatment.

COMPATIBILITY

TOPREX may be used in a 2-way mixture with PLOVER (UK only).

Section 6 of the Health and Safety at Work Act Additional Product Safety Information

(This section does not form part of the product label under the Plant Protection Products Regulations)

This product label provides information on specific pesticidal use of the product, do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has "Extension of Use" approval or is otherwise permitted under the Plant Product Regulations.

The information on this label is based on the best available information including data from test results.

Safety Data Sheet v14.0

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: TOPREX

Design Code: A14049A

Product Registration Number : MAPP 16456

Unique Formula Identifier (UFI): Y0H7-63SE-K003-WFH4

1.2 Relevant Identified Uses of the substance or mixture and uses advised against

Use: Fungicide

Recommended restrictions on use: professional use

1.3 Details of the supplier of the safety data sheet

Company: Syngenta UK Ltd

CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE

Telephone : +44 (0) 1223 883400

Telefax : +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@syngenta.com

1.4 Emergency telephone number

Emergency phone No. : +44 1484 538444

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Reproductive toxicity, Category 2 - H361d: Suspected of damaging the unborn child.

Short-term (acute) aquatic hazard, Category 1 - H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1 - H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms



Signal word

Warning

Hazard statements

H361d

Suspected of harming the unborn child.

H410

Very toxic to aquatic life with long lasting effects

Precautions statements

P102

Keep out of reach of children.

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

P308+P313

IF exposed or concerned. Get medical advice/ attention.

P391

Collect Spillage

P501

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as nonhazardous waste.

Hazardous components which must be listed on the label:

Paclobutrazol (ISO)

Additional Labelling

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

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

2.3 Other hazards

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous Component(s)

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Difenoconazole	119446-68-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 20 - < 25

Exposure time: 28 d
Species: *Americamysis*

M-Factor (Chronic aquatic toxicity): 10

paclobutrazol (ISO):
Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 27.8 mg/l
Exposure time: 96 h
LC50 (*Lepomis macrochirus* (Bluegill sunfish)): 23.6 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): > 29 mg/l
Exposure time: 48 h
EC50 (*Mysidopsis bahia* (opossum shrimp)): > 9 mg/l
Exposure time: 72 h
ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): > 15.2 mg/l
Exposure time: 96 h
ErC50 (*Lemna gibba* (gibbous duckweed)): 0.0283 mg/l
Exposure time: 7 d
NOEC (*Lemna gibba* (gibbous duckweed)): 0.002 mg/l
End point: Growth rate
Exposure time: 7 d
ErC50 (*Myriophyllum spicatum* (Eurasian watermilfoil)): 0.022 mg/l
Exposure time: 14 d
NOEC (*Myriophyllum spicatum* (Eurasian watermilfoil)): 0.0028 mg/l
End point: Growth rate
Exposure time: 14 d

M-Factor (Acute aquatic toxicity): 10

Toxicity to fish (Chronic toxicity): NOEC: 0.049 mg/l
Exposure time: 32 d
Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.32 mg/l
Exposure time: 22 d
Species: *Daphnia magna* (Water flea)

M-Factor (Chronic aquatic toxicity): 10

Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.

poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-[tris(1-phenylethyl)phenoxy]-, ammonium salt:
Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 33 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 24 mg/l
Exposure time: 48 h

toluene:
Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 5.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Ceriodaphnia dubia* (water flea)): 3.78 mg/l
Exposure time: 48 h

1,2-benzisothiazol-3(2H)-one:
Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 2.18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 2.94 mg/l
Exposure time: 48 h
ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 0.15 mg/l
Exposure time: 72 h
EC10 (*Raphidocelis subcapitata* (freshwater green alga)): 0.04 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to algae/aquatic plants: 1
NOEC: 0.3 mg/l
Exposure time: 28 d
Species: *Oncorhynchus mykiss* (rainbow trout)

M-Factor (Acute aquatic toxicity): 1
Toxicity to fish (Chronic toxicity): NOEC: 0.3 mg/l
Exposure time: 28 d
Species: *Oncorhynchus mykiss* (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 1.7 mg/l
Exposure time: 21 d
Species: *Daphnia* (water flea)

12.2 Persistence and degradability
Components:
difenoconazole:
Biodegradability : Result: Not readily biodegradable.
Stability in water : Degradation half life: 1 d
Remarks: Product is not persistent.

paclobutrazol (ISO):
Biodegradability : Result: Not readily biodegradable.
Stability in water : Degradation half life: 167 - 1,378 d
Remarks: Persistent in water.

toluene:
Biodegradability : Result: Readily biodegradable.

1,2-benzisothiazol-3(2H)-one:
Biodegradability : Result: rapidly degradable

12.3 Bioaccumulative potential
Components:
difenoconazole:
Bioaccumulation : Remarks: High bioaccumulation potential.
Partition coefficient: noctanol/water: log Pow: 4.4 (25 °C)

paclobutrazol (ISO):
Bioaccumulation : Remarks: Does not bioaccumulate.

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Paclitaxel (ISO)	76738-62-0 603-239-00-4	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2; H319 Repr. 2; H361d Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 10 - < 20
Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-[tris(1-phenylethyl)phenoxy]-ammonium salt	119432-41-6	Aquatic Chronic3; H412	>= 1 - < 2.5
methanol	67-56-1 200-659-6 603-001-00-X 01-2119433307-44	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370 specific concentration limit STOT SE 1; H370 >= 10 % STOT SE 2; H371 >= 3 - < 10 %	>= 0.1 - < 1
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304	>= 0.1 - < 1
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317 >= 0.05 %	>= 0.05 - < 0.05
Substances with a workplace exposure limit :			
propane-1,2-diol	57-55-6 200-338-0 01-2119456809-23		>= 1 - < 10

Substances for which there are Community workplace exposure limits
For the full text of the H-statements mentioned in this Section, see Section 16.

4. FIRST-AID MEASURES

4.1 Description of first aid measures

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

If inhaled : Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Keep patient warm and at rest. Call a physician or poison control centre immediately.

In case of skin contact : Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

If swallowed : If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media : [Extinguishing media - small fires](#)

Use water or alcohol-resistant foam, dry chemical or carbon dioxide.

[Extinguishing media - large fires](#)

Alcohol-resistant foam or Water spray

Use suitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: 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

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

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

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for 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). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

6.4 Reference to other sections

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

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on 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

Requirements for storage areas and containers: 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.

Further information on storage stability: 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)

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
difenoconazole	119446-68-3	TWA	5 mg/m ³	Syngenta
paclobutrazol (ISO)	76738-62-0	TWA	5 mg/m ³	Syngenta
propane-1,2-diol	57-55-6	TWA (particles)	10 mg/m ³	GB EH40
		TWA (Total vapour and particles)	150 ppm 474 mg/m ³	GB EH40
methanol	67-56-1	TWA	200 ppm 266 mg/m ³	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	250 ppm 333 mg/m ³	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		TWA	200 ppm 260 mg/m ³	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
toluene	108-88-3	TWA	50 ppm 191 mg/m ³	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	100 ppm 384 mg/m ³	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		TWA	50 ppm 192 mg/m ³	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
		STEL	100 ppm 384 mg/m ³	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
Derived No Effect Level (DNEL):				
Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m ³
	Consumers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	30 mg/m ³
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term local effects	10 mg/m ³
	Workers	Inhalation	Long-term systemic effects	6.81 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg
methanol	Workers	Dermal	Short-term exposure, Systemic effects	40 mg/kg
	Workers	Inhalation	Short-term exposure, Systemic effects	260 mg/m ³
	Workers	Inhalation	Short-term exposure, Local effects	260 mg/m ³
	Workers	Dermal	Long-term systemic effects	40 mg/kg
	Workers	Inhalation	Long-term systemic effects	260 mg/m ³
	Workers	Inhalation	Long-term local effects	260 mg/m ³
	Consumers	Dermal	Short-term exposure, Systemic effects	8 mg/kg
	Consumers	Inhalation	Short-term exposure, Systemic effects	50 mg/m ³
	Consumers	Oral	Short-term exposure, Systemic effects	8 mg/kg
	Consumers	Inhalation	Long-term local effects	50 mg/m ³
	Consumers	Oral	Long-term systemic effects	8 mg/kg
	Consumers	Inhalation	Long-term systemic effects	50 mg/m ³
Consumers	Dermal	Long-term systemic effects	8 mg/kg	
Consumers	Inhalation	Short-term exposure, Local effects	50 mg/m ³	
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m ³
	Workers	Dermal	Long-term systemic effects	384 mg/kg
	Workers	Inhalation	Acute local effects	384 mg/m ³
	Workers	Inhalation	Acute systemic effects	384 mg/m ³
	Workers	Inhalation	Long-term local effects	192 mg/m ³
	Consumers	Oral	Long-term systemic effects	8.13 mg/kg
	Consumers	Dermal	Long-term systemic effects	226 mg/kg
	Consumers	Inhalation	Acute systemic effects	226 mg/m ³
	Consumers	Inhalation	Acute local effects	226 mg/m ³
	Consumers	Inhalation	Long-term local effects	56.5 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m ³

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Marine water	26 mg/l
	intermittent use/release	183 mg/l

Substance name	Environmental Compartment	Value
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg
	Fresh water sediment	572 mg/kg
	Soil	50 mg/kg
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.00403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 mg/kg
methanol	Fresh water	154 mg/l
	Marine water	15.4 mg/l
	Soil	22.5 mg/kg
	Sewage treatment plant	100 mg/l
toluene	Fresh water	0.68 mg/l
	Marine sediment	16.39 mg/kg
	Sewage treatment plant	3.61 mg/l
	Intermittent use/release	0.68 mg/l
	Marine water	0.68 mg/l
	Fresh water sediment	16.39 mg/kg
	Soil	2.89 mg/kg

8.2 Exposure controls Engineering Measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection

Material : Nitrile rubber

Break through time : > 480 min

Glove thickness : 0.5 mm

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

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

Respiratory protection : No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : off-white to beige

Odour : characteristic

Odour Threshold : No data available

pH : 4 - 9 Concentration: 1 % w/v

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Method: Pensky-Martens closed cup, does not flash

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

Relative vapour density : No data available

Density : 1.11 g/cm³ (20 °C)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: octanol/ water: No data available

Auto-ignition temperature : > 650 °C

Decomposition temperature : No data available

Viscosity, dynamic : 36.2 - 263 mPa.s (40 °C). 49.1 - 317 mPa.s (20 °C)

Viscosity, kinematic : No data available

Explosive properties : Not explosive

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

9.2 Other Information

Particle size : No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

Acute toxicity

Product:

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.05 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

Components:

difenoconazole:

Acute oral toxicity : LD50 (Rat, male and female): 1,453 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,300 mg/m3
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,010 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

paclobutrazol (ISO):

Acute oral toxicity : LD50 (Rat, female): 1,336 mg/kg
Acute toxicity estimate: 490 mg/kg
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute inhalation toxicity : LC50 (Rat, female): 3.13 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Acute toxicity estimate: 3.13 mg/l
Test atmosphere: dust/mist
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

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

methanol:

Acute oral toxicity : Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity : Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : Assessment: The component/mixture is toxic after single contact with skin.

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat, male): 670 mg/kg

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

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

difenoconazole:

Species : Rabbit
Result : No skin irritation

paclobutrazol (ISO):

Species : Rabbit
Result : No skin irritation

toluene:

Species : Rabbit
Result : Irritating to skin.

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit
Result : Mild skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation.

Components:

difenoconazole:

Species : Rabbit
Result : Irritation to eyes, reversing within 7 days

paclobutrazol (ISO):

Species : Rabbit
Result : Irritation to eyes, reversing within 7 days

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit
Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

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

Components:

difenoconazole:

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

paclobutrazol (ISO):

Species : Guinea pig
Result : Does not cause skin sensitisation.

1,2-benzisothiazol-3(2H)-one:

Result : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:

difenoconazole:

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

paclobutrazol (ISO):

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

methanol:

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

1,2-benzisothiazol-3(2H)-one:

Germ cell mutagenicity-Assessment: Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity**Components:****difenoconazole:**

Carcinogenicity -Assessment: Weight of evidence does not support classification as a carcinogen

paclobutrazol (ISO):

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

methanol:

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

Reproductive toxicity**Components:****difenoconazole:**

Reproductive toxicity -Assessment: No toxicity to reproduction

paclobutrazol (ISO):

Reproductive toxicity -Assessment: Some evidence of adverse effects on development, based on animal experiments., Animal testing did not show any effects on fertility.

methanol:

Reproductive toxicity -Assessment: No toxicity to reproduction

toluene:

Reproductive toxicity -Assessment: Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure**Components:****methanol:**

Target Organs : Eyes, Central nervous system

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

toluene:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT - repeated exposure**Components:****toluene:**

Target Organs : Central nervous system

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

Repeated dose toxicity**Components:****difenoconazole:**

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

Aspiration toxicity**Components:**

toluene: May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION**12.1 Toxicity****Product:**

Toxicity to fish :

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 7.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 4.8 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 3.2 mg/l
Exposure time: 96 h

NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.1 mg/l
Exposure time: 96 h

ErC50 (*Lemna gibba* (gibbous duckweed)): 0.45 mg/l
Exposure time: 7 d

NOEC (*Lemna gibba* (gibbous duckweed)): 0.027 mg/l
Exposure time: 7 d

Components:**difenoconazole:**

Toxicity to fish :

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 1.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 0.77 mg/l
Exposure time: 48 h

EC50 (*Americamysis*): 0.15 mg/l

Exposure time: 96 h

Toxicity to algae/aquatic plants:

EC50 (*Navicula pelliculosa* (Freshwater diatom)): 0.091 mg/l
Exposure time: 72 h

NOEC (*Navicula pelliculosa* (Freshwater diatom)): 0.053 mg/l
Exposure time: 72 h

ErC50 (*Desmodesmus subspicatus* (green algae)): 0.0876 mg/l
Exposure time: 72 h

EC10 (*Desmodesmus subspicatus* (green algae)): 0.015 mg/l
End point: Growth rate

Exposure time: 72 h

M-Factor (Acute aquatic toxicity):

10

Toxicity to microorganisms :

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

Toxicity to fish (Chronic toxicity):

NOEC: 0.0076 mg/l
Exposure time: 34 d

Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates

(Chronic toxicity):

NOEC: 0.0056 mg/l
Exposure time: 21 d

Species: *Daphnia magna* (Water flea)

NOEC: 0.0023 mg/l

toluene:

Bioaccumulation : Remarks: Does not bioaccumulate.

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil**Components:****difenoconazole:**

Distribution among environmental compartments: Remarks: Low mobility in soil.

Stability in soil : Dissipation time: 149 - 187 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

paclobutrazol (ISO):

Distribution among environmental compartments: Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 43 - 634 d

Percentage dissipation: 50 % (DT50)

Remarks: Persistent in soil.

12.5 Results of PBT and vPvB assessment**Product:**

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

Components:**difenoconazole:**

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).

paclobutrazol (ISO):

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

This substance is not considered to be very persistent and very bioaccumulating (vPvB).

methanol:

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).

toluene:

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).

1,2-benzisothiazol-3(2H)-one:

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

This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Product:**

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

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 for local recycling or waste disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION**14.1 UN number**

ADR : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFENOCONAZOLE AND PACLOBUTRAZOL)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFENOCONAZOLE AND PACLOBUTRAZOL)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFENOCONAZOLE AND PACLOBUTRAZOL)

IATA : Environmentally hazardous substance, liquid, n.o.s. (DIFENOCONAZOLE AND PACLOBUTRAZOL)

14.3 Transport hazard class(es)

ADR : 9

RID : 9

IMDG : 9

IATA : 9

14.4 Packing group

ADR

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Tunnel restriction code : (-)

RID

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

IMDG

Packing group : III

Labels : 9

EmS Code : F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft): 964

Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous
IATA (Passenger)
Packing instruction (passenger aircraft): 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADR

Environmentally hazardous : yes
RID

Environmentally hazardous : yes
IMDG

Marine pollutant : yes
IATA (Passenger)

Environmentally hazardous : yes
IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

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

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

15. REGULATORY INFORMATION

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

Relevant EU provisions transposed through retained EU law REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII):
Conditions of restriction for the following entries should be considered: Number on list 2 Methanol (Number on list 69) toluene (Number on list 48)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

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

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable

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

Quantity 1 Quantity 2

E1 ENVIRONMENTAL HAZARDS 100 t 200 t

Other regulations:

15.2 Chemical safety assessment

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

16. OTHER INFORMATION

Full text of H-Statements

H225 : Highly flammable liquid and vapour.

H301 : Toxic if swallowed.

H302 : Harmful if swallowed.

H304 : May be fatal if swallowed and enters airways.

H311 : Toxic in contact with skin.

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.

H318 : Causes serious eye damage.

H319 : Causes serious eye irritation.

H331 : Toxic if inhaled.

H332 : Harmful if inhaled.

H336 : May cause drowsiness or dizziness.

H361d : Suspected of damaging the unborn child.

H373 : Causes damage to organs.

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.

H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard

Aquatic Chronic : Long-term (chronic) aquatic hazard

Asp. Tox. : Aspiration hazard

Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation

Flam. Liq. : Flammable liquids

Repr. : Reproductive toxicity

Skin Irrit. : Skin irritation

Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure

STOT SE : Specific target organ toxicity - single exposure

2006/15/EC : Europe. Indicative occupational exposure limit values

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

2006/15/EC / TWA : Limit Value - eight hours

2006/15/EC / STEL : Short term exposure limit

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways;

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIC - 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; TECL - Thailand Existing Chemicals 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

Further information

Classification of the mixture: Classification procedure:

Repr. 2	H361d	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Based on product data or assessment

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.