

1 Identification

- **Product identifier**
 - Product number HTM593D
 - Trade name: **KLIMA CLEAR CONVERTER 60 SHN**
 - Application of the substance / the mixture For professional use
- **Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
IVM Chemicals srl
Viale della Stazione 3 - 27020 Parona (PV) Italy tel +39 038425441
 - **Information department:**
Environmental Health and safety office
hseoffice@ivmchemicals.com
 - **Emergency telephone number:**
ChemTel Expert Assistance Hotline/SDS Fax Access by dialing 1-800-255-3924 or for International +1-813-248-0585.

2 Hazard(s) identification

- **Classification of the substance or mixture**
Flammable Liquids 4 H227 Combustible liquid. Flam. Liq. 4
Sensitization - Skin 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)
- **Hazard statements**
H227 Combustible liquid. Flam. Liq. 4
H317 May cause an allergic skin reaction.
- **Precautionary statements**
P210 Keep away from flames and hot surfaces. . No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P363 Wash contaminated clothing before reuse.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 1
Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture: consisting of the following components.

· **Dangerous components:**

112-34-5	2-(2-butoxyethoxy)ethanol ⚠ Eye Irritation 2A, H319	2.5-4.99%
111-90-0	Diethylene glycol monoethyl ether Flammable Liquids 4, H227	1-2.49%
	Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene) ⚠ Aquatic Chronic 2, H411 ⚠ Sensitization - Skin 1, H317	≥0.25-<0.5%
34590-94-8	(2-methoxymethylethoxy)propanol Flammable Liquids 4, H227	<1%
1336-21-6	ammonia ⚠ Skin Corrosion 1B, H314 ⚠ Aquatic Acute 1, H400	<0.25%
55965-84-9	a mixture of: 5-chloro-2-methyl-2 H -isothiazol-3-one [EC No 247-500-7] and 2-methyl-2 H -isothiazol-3-one [EC No 220-239-6] (3:1) ⚠ Acute Toxicity - Oral 3, H301; Acute Toxicity - Dermal 2, H310; Acute Toxicity - Inhalation 2, H330 ⚠ Skin Corrosion 1B, H314; Eye Damage 1, H318 ⚠ Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=100) ⚠ Sensitization - Skin 1A, H317	≥0.00025-<0.0015%

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

personal protective equipment for first aid responders is recommended. (please see section 8)

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

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· Information for doctor:

- **Most important symptoms and effects, both acute and delayed**
Allergic reactions
For symptoms and effects caused by substances, refer to Section 11.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· Extinguishing media**· Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents:

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

· Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide (CO)

· Advice for firefighters

Cool by spraying with water the containers to prevent product decomposition and the development of substances potentially hazardous for health and also, in the case of closed containers exposed to flames to prevent explosions.

· Protective equipment:

Hardhat with visor, fireproof clothing, suitable gloves and if necessary respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

· Environmental precautions: Do not allow to enter sewers/ surface or ground water.**· Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals**· PAC-1:**

112-34-5	2-(2-butoxyethoxy)ethanol	30 ppm
111-90-0	Diethylene glycol monoethyl ether	75 ppm
34590-94-8	(2-methoxymethylethoxy)propanol	150 ppm
1336-21-6	ammonia	61 ppm

· PAC-2:

112-34-5	2-(2-butoxyethoxy)ethanol	33 ppm
111-90-0	Diethylene glycol monoethyl ether	100 ppm

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34590-94-8	(2-methoxymethylethoxy)propanol	1700* ppm
1336-21-6	ammonia	330 ppm
· PAC-3:		
112-34-5	2-(2-butoxyethoxy)ethanol	200 ppm
111-90-0	Diethylene glycol monoethyl ether	450 ppm
34590-94-8	(2-methoxymethylethoxy)propanol	9900** ppm
1336-21-6	ammonia	2,300 ppm

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

· Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Observe the label precautions, the expiration date for the use, if not indicated, is from delivery date of goods.

In cases where there is no reported expiration date, it means that the product must be used within 8 months.

Take on temperature greater than 5 ° C

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions: Keep receptacle tightly sealed.

· Specific end use(s) Those typical of the product and the instructions in the data sheet if required.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

112-34-5 2-(2-butoxyethoxy)ethanol	
TLV	Long-term value: 10* ppm *Inhalable fraction and vapor
111-90-0 Diethylene glycol monoethyl ether	
WEEL	Long-term value: 25 ppm
34590-94-8 (2-methoxymethylethoxy)propanol	
PEL	Long-term value: 600 mg/m , 100 ppm Skin
REL	Short-term value: 900 mg/m , 150 ppm Long-term value: 600 mg/m , 100 ppm Skin

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TLV	Long-term value: NIC-50 ppm (Skin)
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· *Additional information:* The lists that were valid during the creation were used as basis.

· **Exposure controls**

· *Personal protective equipment:*

· *General protective and hygienic measures:*

Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.

· *Breathing equipment:*

Not required.
Short term filter device:



Suitable respiratory protective device recommended.

Filter A

· *Protection of hands:*



Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The glove material has to be impermeable and resistant to the product .

· *Material of gloves*

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· *Penetration time of glove material*

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· *Eye protection:* Goggles recommended during refilling.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· *General Information*

· *Appearance:*

· *Form:*

Fluid

· *Color:*

According to product specification

· *Odor:*

Characteristic

· *Odor threshold:*

Not determined.

· *pH-value:*

Mixture is non-polar/aprotic.
Range: 7 - 9

· *Change in condition*

· *Melting point/Melting range:*

Undetermined.

· *Boiling point/Boiling range:*

100 °C (212 °F)

· *Flash point:*

93 °C (199.4 °F)

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· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:	190 °C (374 °F)	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Not determined.	
· Explosion limits:		
· Lower:	0.9 Vol %	
· Upper:	11.6 Vol %	
· Vapor pressure at 20 °C (68 °F):	0.1 hPa	
· Density (+/- 0,03) at 20 °C (68 °F):	1.04 g/cm (8.679 lbs/gal)	
· Relative density	Not determined.	
· Vapor density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
· Water:	Not miscible or difficult to mix.	
· Partition coefficient (n-octanol/water):	Not determined.	
· Viscosity:		
· Dynamic:	Not determined.	
· Kinematic at 20 °C (68 °F):	60 s (ISO 6 mm)	
· Oxidising properties:	N.A.	
· Solvent content:		
· Water:	56.8 %	
· VOC content:	4.78 %	
	49.7 g/l / 0.41 lb/gal	
· Solids content:	38.3 %	
· Other information (HAPS)		
112-34-5	2-(2-butoxyethoxy)ethanol	2.5-4.99%
111-90-0	Diethylene glycol monoethyl ether	1-2.49%
143-22-6	2-[2-(2-butoxyethoxy)ethoxy]ethanol	<0.1%
110-80-5	2-ethoxyethanol	<0.01%
· Other information	No further relevant information available.	

10 Stability and reactivity

- **Reactivity** typical of the product as indicated in the data sheet
- **Chemical stability** The product is stable in normal conditions of storage and use recommended
 - **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Acids, alkalis and oxidizing agents
- **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

112-34-5 2-(2-butoxyethoxy)ethanol

Oral	LD50	6,600 mg/kg (mouse)
Dermal	LD50	2,764 mg/kg (rabbit)

111-90-0 Diethylene glycol monoethyl ether

Oral	LD50	6,031 mg/kg (mouse)
Dermal	LD50	9,143 mg/kg (rabbit)

Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)

Oral	LD50	5,001 mg/kg (mouse) (OECD - 401)
Dermal	LD50	2,001 mg/kg (mouse) (OECD - 402)

34590-94-8 (2-methoxymethylethoxy)propanol

Oral	LD50	5,135 mg/kg (mouse)
Dermal	LD50	19,020 mg/kg (rabbit)

1336-21-6 ammonia

Oral	LD50	3,500 mg/kg (mouse)
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· Primary irritant effect:

- on the skin: No irritant effect.
- on the eye: No irritating effect.

· Sensitization: Sensitization possible through skin contact.

· Additional toxicological information:

Irritant

May cause an allergic skin reaction.

Safety data sheet available on request.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer - Cl. 1 and 2)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

· Aquatic toxicity:

112-34-5 2-(2-butoxyethoxy)ethanol

EC50	1,001 mg/l (daphnia) (48 h)
LC50 (96h)	1,300 mg/l (Leuciscus idus melanotus)

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111-90-0 Diethylene glycol monoethyl ether

LC50 48h 1,982 mg/l (daphnia)

LC50 (96h) 101 mg/l (Fish)

Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)

EC50 101 mg/l (algae) (72h)

4 mg/l (daphnia) (OECD linee guida 202 parte 1)

LC50 (96h) 2.8 mg/l (Leuciscus idus melanotus) (OECD linee guida 203)

34590-94-8 (2-methoxymethylethoxy)propanol

EC50 970 mg/l (algae) (72 h)

1,919 mg/l (daphnia) (48 h)

LC50 (96h) 1,001 mg/l (Fish)

1336-21-6 ammonia

EC50 101 mg/l (daphnia) (96 h)

LC50 (96h) 0.89 mg/l (Fish)

55965-84-9 a mixture of: 5-chloro-2-methyl-2 H -isothiazol-3-one [EC No 247-500-7] and 2-methyl-2 H -isothiazol-3-one [EC No 220-239-6] (3:1)

EC50 0.027 mg/l (algae) (72 h)

0.16 mg/l (daphnia) (48 h)

LC50 (96h) 0.19 mg/l (Fish)

· **Persistence and degradability** No further relevant information available.

· **Substances Easily biodegradable**

112-34-5 2-(2-butoxyethoxy)ethanol .

111-90-0 Diethylene glycol monoethyl ether .

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

Dispose of contents and container in accordance with local state and federal regulations.

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- **Uncleaned packagings:**
 - *Recommendation: Disposal must be made according to official regulations.*

14 Transport information

- **UN-Number**
 - DOT, IMDG, IATA Not applicable
 - Note Check viscosity and flash point at section 9
- **UN proper shipping name**
 - DOT, IMDG, IATA Not applicable
- **Transport hazard class(es)**
 - DOT, ADR, ADN, IMDG, IATA
 - Class Not applicable
- **Packing group**
 - DOT, IMDG, IATA Not applicable
- **Environmental hazards:**
 - Marine pollutant: No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** Not applicable

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Various regulations**
 - SARA

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings) :**

112-34-5	2-(2-butoxyethoxy)ethanol	2.5-4.99%
111-90-0	Diethylene glycol monoethyl ether	1-2.49%
1336-21-6	ammonia	<0.25%
143-22-6	2-[2-(2-butoxyethoxy)ethoxy]ethanol	<0.1%
111-76-2	2-butoxyethanol	<0.1%
110-80-5	2-ethoxyethanol	<0.01%

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

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· Proposition 65**· Chemicals known to cause cancer:**

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

110-80-5 | 2-ethoxyethanol | <0.01%

· Chemicals known to cause developmental toxicity:

110-80-5 | 2-ethoxyethanol | <0.01%

· Carcinogenic categories**· EPA (Environmental Protection Agency)**

111-76-2 | 2-butoxyethanol | NL | <0.1%

· TLV (Threshold Limit Value)

111-76-2 | 2-butoxyethanol | A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· National regulations:

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** IVM Chemicals Srl

- **Contact:** See emergency phone

- **Date of preparation / last revision** 08/08/2022 / 2

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable Liquids 4: Flammable liquids . Category 4

Acute Toxicity - Oral 3: Acute toxicity . Category 3

Acute Toxicity - Dermal 2: Acute toxicity . Category 2

Skin Corrosion 1B: Skin corrosion/irritation . Category 1B

Eye Damage 1: Serious eye damage/eye irritation . Category 1

Eye Irritation 2A: Serious eye damage/eye irritation . Category 2A

Sensitization - Skin 1: Skin sensitisation . Category 1

Sensitization - Skin 1A: Skin sensitisation . Category 1A

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard . Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard . Category 1

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Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard . Category 2

· **Sources**

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL and following amendments

Agency ECHA web site

INRS Fiche Toxicologique

IARC International agency for research on cancer

· ** Data compared to the previous version altered.*

US