

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : EOGas and Anprolene Ethylene Oxide

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only
Use of the substance/mixture : For use by healthcare professionals as a sterilising agent in a flexible chamber Ethylene Oxide steriliser for controlling micro-organisms in healthcare applications.
Use of the substance/mixture : Disinfectant

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

H.W. Andersen Products Ltd
Unit 808 Oakwood Business Park Fowler Road, Clacton on sea
CO15 4AA– CO15 4AA – United Kingdom Essex
United Kingdom
T 01255 428328
fstoker@anderseneurope.com - www.anderseneurope.com

1.4. Emergency telephone number

Emergency number : CHEM-TEL +1-813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable gases, Category 1A	H220
Acute toxicity (inhalation:gas) Category 3	H331
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Germ cell mutagenicity, Category 1A	H340
Carcinogenicity, Category 1A	H350
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS02

GHS06

GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H220 - Extremely flammable gas.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H331 - Toxic if inhaled.
H335 - May cause respiratory irritation.
H340 - May cause genetic defects.
H350 - May cause cancer.
Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing gas, fume.
P280 - Wear eye protection, protective clothing, protective gloves.
P302+P352 - IF ON SKIN: Wash with plenty of Wash with plenty of water/....
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.
P311 - Call a doctor, a POISON CENTER.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : EOGas and Anprolene Ethylene Oxide

Name	Product identifier	%
Ethlene Oxide (Note U)	CAS-No.: 75-21-8. EC-No.: 200-849-9 EC Index-No.: 603-023-00-X REACH-no: 01-2119432402-53-XXXX	89 - 97

Note U (Table 3): When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Get medical advice/attention. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects	: Toxic if inhaled. Suspected of causing genetic defects. Suspected of causing cancer.
Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.

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

Treat symptomatically. Call a doctor.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable gas.
Explosion hazard	: Explosive, severe projection hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire	: Exercise caution when fighting any chemical fire.
Firefighting instructions	: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Fight fire from safe distance and protected location.
Protection during firefighting	: Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ventilate area. Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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6.1.1. For non-emergency personnel

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate spillage area. Evacuate area.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Ventilate area. Mark out the contaminated area with signs and prevent access to unauthorized personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Stop leak, if possible without risk.
Methods for cleaning up	: Notify authorities if product enters sewers or public waters.

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Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Do not pierce or burn, even after use. Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Heat and ignition sources : No flames, no sparks. Eliminate all sources of ignition.

Packaging materials : Keep only in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Ethlene Oxide (75-21-8.)	
United Kingdom - Occupational Exposure Limits	
Local name	Ethylene oxide
WEL TWA (OEL TWA) [1]	9.2 mg/m ³
WEL TWA (OEL TWA) [2]	5 ppm
Remark	Carc (Capable of causing cancer and/or heritable genetic damage)
Regulatory reference	EH40/2005 (Third edition, 2018). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. PPE compliant to the recommended EN/ISO or equivalent standards should be selected.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Refer to the Manual given with the device

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing. Refer to the Manual given with the device

Hand protection:

Protective gloves. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374. Refer to the Manual given with the device

Other skin protection

Materials for protective clothing:

Wear suitable coveralls to prevent exposure to the skin. Refer to the Manual given with the device

8.2.2.3. Respiratory protection

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Refer to the Manual given with the device

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Refer to the Manual given with the device.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Colour	: Colourless.
Odour	: Sweet.
Odour threshold	: 261 (500 – 700) ppm Recognisable
pH	: 7
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: -112 °C
Boiling point	: 10.4 °C
Flash point	: < -18 °C
Auto-ignition temperature	: 445 °C
Decomposition temperature	: ≈ 773 °C

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Flammability (solid, gas)	: Extremely flammable gas.
Vapour pressure	: 1095 mm Hg
Relative vapour density at 20 °C	: 0.875
Relative density	: No data available
Relative density of saturated gas/air mixture	: 1.5
Solubility	: Water: 100
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Fire or projection hazard.
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 2.6 vol %
Upper explosive limit (UEL)	: 100 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Extremely flammable gas.

10.2. Chemical stability

Stable under normal conditions. Contains gas under pressure; may explode if heated.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂, and smoke can be generated.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Toxic if inhaled.
Skin corrosion/irritation	: Causes skin irritation. pH: 7
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.

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Ethlene Oxide (75-21-8.)

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Toxic if inhaled.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

12.2. Persistence and degradability

EOGas and Anprolene Ethylene Oxide

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information	: Avoid release to the environment.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Do not pierce or burn, even after use.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Avoid release to the environment.

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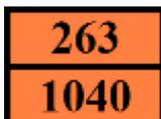
SECTION 14: Transport information

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 1040	UN 1040	UN 1040	UN 1040	UN 1040
14.2. UN proper shipping name				
ETHYLENE OXIDE	ETHYLENE OXIDE	Ethylene oxide	ETHYLENE OXIDE	ETHYLENE OXIDE
Transport document description (ADR)				
UN 1040 ETHYLENE OXIDE, 2.3 (2.1), (B/D)	UN 1040 ETHYLENE OXIDE, 2.3 (2.1)	UN 1040 Ethylene oxide, 2.3 (2.1)	UN 1040 ETHYLENE OXIDE, 2.3 (2.1)	UN 1040 ETHYLENE OXIDE, 2.3 (2.1)
14.3. Transport hazard class(es)				
2.3 (2.1)	2.3 (2.1)	2.3 (2.1)	2.3 (2.1)	2.3 (2.1)
 	 	Not applicable	 	 
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : 2TF
Special provisions (ADR) : 342
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P200
Mixed packing provisions (ADR) : MP9
Portable tank and bulk container instructions (ADR) : (M)
Vehicle for tank carriage : FL
Transport category (ADR) : 1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV10, CV36
Special provisions for carriage - Operation (ADR) : S2, S14
Hazard identification number (Kemler No.) : 263
Orange plates :



Tunnel restriction code (ADR) : B/D
EAC code : 2PE
APP code : A(fg)

Transport by sea

Special provisions (IMDG) : 342
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P200

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Tank instructions (IMDG)	: T50
Tank special provisions (IMDG)	: TP20, TP90
EmS-No. (Fire)	: F-D
EmS-No. (Spillage)	: S-U
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Liquefied, flammable, toxic gases with an ether-like odour. Heavier than air (1.5). Boiling point: 11°C.

Air transport

PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
Special provisions (IATA)	: A2, A131
ERG code (IATA)	: 10P

Inland waterway transport

Classification code (ADN)	: 2TF
Special provisions (ADN)	: 342
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EP, EX, TOX, A
Ventilation (ADN)	: VE01, VE02
Number of blue cones/lights (ADN)	: 2

Rail transport

Classification code (RID)	: 2TF
Special provisions (RID)	: 342
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P200
Mixed packing provisions (RID)	: MP9
Portable tank and bulk container instructions (RID)	: (M)
Portable tank and bulk container special provisions (RID)	: TP20
Transport category (RID)	: 1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW9, CW10, CW36
Hazard identification number (RID)	: 263

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
40.	Ethlene Oxide

EOGas and Anprolene Ethylene Oxide is not on the REACH Candidate List

EOGas and Anprolene Ethylene Oxide is not on the REACH Annex XIV List

EOGas and Anprolene Ethylene Oxide is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

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EOGas and Anprolene Ethylene Oxide is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

EOGas and Anprolene Ethylene Oxide is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
8.2		Modified	PPE

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Carc. 1A	Carcinogenicity, Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1A	Flammable gases, Category 1A
H220	Extremely flammable gas.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
Muta. 1A	Germ cell mutagenicity, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.