

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

#### 1.1. Product identifier

Product form : Mixture  
Product 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

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  
Essex  
CO15 4AA

Ph: 01255 428328  
Mobile: 07872 041392  
Fax: 0203 1630791  
Main Contact: Fiona Stoker

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 1	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 hazard classes and H-statements : see section 16

##### Adverse physicochemical, human health and environmental effects

Extremely flammable gas. May cause cancer. May cause genetic defects. Toxic if inhaled. May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS06

GHS08

Signal word (CLP) : Danger

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Hazardous ingredients	: Ethlene Oxide
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 soap and 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. P501 - Dispose of contents to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethlene Oxide	(CAS-No.) 75-21-8. (EC-No.) 200-849-9 (EC Index-No.) 603-023-00-X	89 - 97	Flam. Gas 1, H220 Press. Gas (Comp.), H280 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1A, H340 Carc. 1A, H350 STOT SE 3, H335

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: 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 doctor.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. 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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable gas.
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Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Eliminate all ignition sources if safe to do so. Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : If an EOgas cartridge or Anprolene ampoule is inadvertently activated before it is sealed inside of the steriliser, there are three options

Option 1 and 2 must be completed within thirty (30) seconds of cartridge activation and the operator must then exit the room until it is confirmed that air quality levels are below the permissible levels set forth in section 8.

1. If the steriliser is on, but not running a cycle, place the cartridge or gas release bag inside the steriliser cabinet, close the door and press the START button, which will turn on the ventilation pump. Tag the steriliser as out of service and leave the cartridge/ampoule inside the cabinet for a minimum of 3.5 hours.
2. If the steriliser is on and already running a cycle, place the cartridge inside the included Zip-lock bag, seal the bag closed and attach the male quick connect fitting to the Accidental release connection mechanism female port located on the left side at the top of the cabinet. Leave it connected to the cabinet for a minimum of 3.5 hours.
3. If option 1 and 2 is not possible, immediately evacuate the room for a minimum of 12 hours. Tag the room as out of service and do not re-enter the room until it is confirmed that the air quality levels are below the permissible levels set out forth in section 8.1.

#### 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".

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Notify authorities if product enters sewers or public waters.

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

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Eliminate all ignition sources if safe to do so. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid breathing gas, fume. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store in a well-ventilated place. Store locked up. Keep container tightly closed. Keep cool.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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Ethlene Oxide (75-21-8.)		
EU	Local name	Ethylene oxide
EU	Notes	Skin. (Year of adoption 2012)

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Personal protective equipment:

Avoid all unnecessary exposure. Safety glasses. Gloves. Protective clothing.

#### Materials for protective clothing:

Wear suitable protective clothing

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Wear respiratory protection



#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Clear, colorless gas.
Colour	: Colourless.
Odour	: Sweet.
Odour threshold	: 261 (500 - 700) ppm Recognisable
pH	: 7
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -112 °C
Freezing point	: -112 °C
Boiling point	: 10.4 °C
Flash point	: < -18 °C
Auto-ignition temperature	: 445 °C
Decomposition temperature	: ≈ 773 °C
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
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available

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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

Extremely flammable gas.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Inhalation:gas: Toxic if inhaled.

ATE CLP (gases)	721.6494845361 ppmv/4h
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Skin corrosion/irritation : Causes skin irritation.  
pH: 7

Serious eye damage/irritation : Causes serious eye irritation.  
pH: 7

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

## 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.

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

Biocentration is not expected to occur due to high water solubility and low log kow.

### 12.4. Mobility in soil

Ethylene oxide does not readily absorb into sediments or soils and does not persist in soils.

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Waste treatment methods : Dispose of used cartridge and accessories as you would in ordinary general waste.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
1040	1040	1040	1040	1040
<b>14.2. UN proper shipping name</b>				
ETHYLENE OXIDE (ethylene oxide, oxirane)	ETHYLENE OXIDE (ethylene oxide, oxirane)	Ethylene oxide (ethylene oxide, oxirane)	ETHYLENE OXIDE (ethylene oxide, oxirane)	ETHYLENE OXIDE (ethylene oxide, oxirane)
<b>Transport document description</b>				
UN 1040 ETHYLENE OXIDE (ethylene oxide, oxirane), 2.1 (2.3), (B/D)	UN 1040 ETHYLENE OXIDE (ethylene oxide, oxirane), 2.3 (2.1)	UN 1040 Ethylene oxide (ethylene oxide, oxirane), 2.3	UN 1040 ETHYLENE OXIDE (ethylene oxide, oxirane), 2.3 (2.1)	UN 1040 ETHYLENE OXIDE (ethylene oxide, oxirane), 2.3 (2.1)
<b>14.3. Transport hazard class(es)</b>				
2.1 (2.3)	2.3 (2.1)	2.3 (2.1)	2.3 (2.1)	2.3 (2.1)
		Not applicable		
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
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

##### - Transport by sea

- Special provisions (IMDG) : 342

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

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

Contains no REACH substances with Annex XVII restrictions  
Contains no substance on the REACH candidate list  
Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 1A	Carcinogenicity, Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Muta. 1A	Germ cell mutagenicity, Category 1A
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
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

SDS EU (REACH Annex II) - Llewellyn

*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*