

Acetylene

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

1.1. Product identifier

Product form	: Substance
Trade name	: Acetylene Acetylene 2.5
SDS code	: 001
Internal reference no.	: 000001
Chemical description	: Acetylene
CAS-No.	: 74-86-2
EC-No.	: 200-816-9
EC Index-No.	: 601-015-00-0
Registration-No.	: 01-2119457406-36
Chemical formula	: C ₂ H ₂

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

Relevant identified uses	: See the list of identified uses and exposure scenarios in the annex of the safety data sheet.
Uses advised against	: Consumer use.

1.3. Details of the supplier of the safety data sheet

Company identification	: Sapiro Produzione Idrogeno Ossigeno Srl Via S. Pellico, 48 20900 Monza - ITALIA +39 039 83981 +39 039 836068 http://www.sapio.it/ sds@sapio.it
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1.4. Emergency telephone number

Emergency telephone number	: +39 0295705444 (24/7)
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SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Physical hazards	Flammable gases, Category 1	H220
	Chemically Unstable gases, Category A	H230
	Gases under pressure : Dissolved gas	H280

2.2. Label elements

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

Hazard pictograms (CLP)	:  
	: GHS02 GHS04
Signal word (CLP)	: Danger
Hazard statements (CLP)	: H220 - Extremely flammable gas. H230 - May react explosively even in the absence of air. H280 - Contains gas under pressure; may explode if heated.
Precautionary statements (CLP)	: - Prevention : P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. - Response : P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381 - In case of leakage, eliminate all ignition sources. - Storage : P403 - Store in a well-ventilated place.

2.3. Other hazards

Other hazards not contributing to the classification	: None.
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SECTION 3: Composition/information on ingredients

Acetylene

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acetylene	CAS-No.: 74-86-2 EC-No.: 200-816-9 EC Index-No.: 601-015-00-0 Registration-No.: 01-2119457406-36	100	Flam. Gas 1, H220 Chem. Unst. Gas A, H230 Press. Gas (Diss.), H280

For safety reasons, the acetylene is dissolved in acetone (Flam. Liq. 2, Eye Irrit. 2, STOT SE 3) or dimethylformamide (Flam.Liq.3, Repr. 1B, Acute Tox. 4, Eye Irrit. 2) in the gas receptacle. Vapour of the solvent is carried away as impurity when the acetylene is extracted from the gas receptacle. The concentration of the solvent vapour in the gas is lower than the concentration limits to change the classification of the acetylene.

The cylinder contains a porous material which in some cases contains asbestos fibres. The asbestos fibres are encapsulated in the solid porous material and are not released under normal conditions of use. See section 13 for the disposal of those cylinders. Dimethylformamide is on the Candidate List of Substances of Very High Concern (SVHC) that might be subject to authorization for future placing on the market and uses.

Contains no other components or impurities which will influence the classification of the product.

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- Inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
- Skin contact : Adverse effects not expected from this product.
- Eye contact : Adverse effects not expected from this product.
- Ingestion : Ingestion is not considered a potential route of exposure.

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

Refer to section 11.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray or fog.
Dry powder.
- Unsuitable extinguishing media : Carbon dioxide.
Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

- Specific hazards : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : Carbon monoxide.

5.3. Advice for firefighters

- Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.
If possible, stop flow of product.
Use water spray or fog to knock down fire fumes if possible.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
Continue water spray from protected position until container stays cool.
Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.
Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Try to stop release.
- Evacuate area.
- Monitor concentration of released product.
- Consider the risk of potentially explosive atmospheres.
- Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
- Eliminate ignition sources.
- Ensure adequate air ventilation.
- Act in accordance with local emergency plan.

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Stay upwind.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Ventilate area.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Safe use of the product :
- The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis. Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment. Purge air from system before introducing gas. Take precautionary measures against static discharge. Keep away from ignition sources (including static discharges). Consider the use of only non-sparking tools. Avoid contact with pure copper, mercury, silver and brass with greater than 65% copper. Operating pressure in piping should be limited to 1.5 bar (gauge) or less due to more stringent national regulations (with maximum diameter DN25). Consider the use of flash back arrestors. Solvent may accumulate in piping systems. For maintenance activities use appropriate resistant gloves, assess the necessity to use a respiratory filter device (specify gloves and filters for DMF or acetone use) and wear safety goggles. Avoid breathing the vapour of the solvent. Provide adequate ventilation. For further information on safe use refer to EIGA code of practice acetylene (EIGA Doc 123). Do not breathe gas. Avoid release of product into atmosphere. Ensure equipment is adequately earthed.
- Safe handling of the gas receptacle :
- Do not allow backfeed into the container. When moving receptacles, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport receptacles. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating receptacle valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the receptacle contents. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

7.2. Conditions for safe storage, including any incompatibilities

- Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials. Segregate from oxidant gases and other oxidants in store. All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere.

7.3. Specific end use(s)

None.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetylene (74-86-2)	
DNEL: Derived no effect level (Workers)	
Acute - systemic effects, inhalation	2675 mg/m ³ 2500 ppm
Long-term - systemic effects, inhalation	2675 mg/m ³ 2500 ppm

PNEC (Predicted No-Effect Concentration) : None established.

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation.
Product to be handled in a closed system.
Systems under pressure should be regularly checked for leakages.
Ensure exposure is below occupational exposure limits (where available).
Gas detectors should be used when flammable gases/vapours may be released.
Consider the use of a work permit system e.g. for maintenance activities.

8.2.2. Individual protection measures, e.g. personal protective equipment

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered:

PPE compliant to the recommended EN/ISO standards should be selected.

- Eye/face protection : Wear safety glasses with side shields.
Standard EN 166 - Personal eye-protection - specifications.
- Skin protection
 - Hand protection : Wear working gloves when handling gas containers.
Standard EN 388 - Protective gloves against mechanical risk.
 - Other : Consider the use of flame resistant anti-static safety clothing.
Standard EN ISO 14116 - Limited flame spread materials.
Standard EN 1149-5 - Protective clothing: Electrostatic properties.
Wear safety shoes while handling containers.
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
- Respiratory protection : Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.
Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.
Consult respiratory device supplier's product information for the selection of the appropriate device.
Gas filters do not protect against oxygen deficiency.
Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .
- Thermal hazards : Wear goggles with suitable filter lenses when use is cutting/welding.

8.2.3. Environmental exposure controls

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

- Physical state at 20°C / 101.3kPa : Gas
- Colour : Colourless.

Odour : Garlic like. Poor warning properties at low concentrations.

Odour threshold : Odour threshold is subjective and inadequate to warn of overexposure.

pH : Not applicable for gases and gas mixtures.

Melting point / Freezing point : -80.8 °C

Boiling point : -84 °C

Flash point : Not applicable for gases and gas mixtures.

Evaporation rate : Not applicable for gases and gas mixtures.

Flammability (solid, gas) : Extremely flammable gas.

Explosive limits : 2.3 - 100 vol %

Vapour pressure [20°C] : 44 bar(a)

Vapour pressure [50°C] : Not applicable.

Vapour density : Not applicable.

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Relative density, liquid (water=1)	: Not applicable.
Relative density, gas (air=1)	: 0.9
Water solubility	: 1185 mg/l
Partition coefficient n-octanol/water (Log Kow)	: 0.37
Auto-ignition temperature	: 305 °C
Decomposition temperature	: Not applicable.
Viscosity	: No reliable data available.
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.

9.2. Other information

Molar mass	: 26 g/mol
Critical temperature	: 35 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Dissolved in a solvent supported in a porous mass.
Stable under recommended handling and storage conditions (see section 7).
May react explosively even in the absence of air.

10.3. Possibility of hazardous reactions

Can form explosive mixture with air.
May react violently with oxidants.
May react explosively even in the absence of air.
May decompose violently at high temperature and/or pressure or in the presence of a catalyst.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
High temperature.
High pressure.
Avoid moisture in installation systems.

10.5. Incompatible materials

Air, Oxidisers.
Forms explosive acetylides with copper, silver and mercury.
Do not use alloys containing more than 65% copper.
Do not use alloys containing more than 43% silver.
For additional information on compatibility refer to ISO 11114.

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	: Acetylene has low inhalation toxicity, the LOAEC for mild intoxication in humans with no residual effects is 100 000ppm (107,000 mg/m3). There are no data on oral and dermal toxicity (studies are not technically feasible as the substance is a gas at room temperature).
Skin corrosion/irritation	: No known effects from this product.
Serious eye damage/irritation	: No known effects from this product.
Respiratory or skin sensitisation	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.
Carcinogenicity	: No known effects from this product.
Toxic for reproduction : Fertility	: No known effects from this product.
Toxic for reproduction : unborn child	: No known effects from this product.
STOT-single exposure	: No known effects from this product.
STOT-repeated exposure	: No known effects from this product.
Aspiration hazard	: Not applicable for gases and gas mixtures.

SECTION 12: Ecological information

12.1. Toxicity

Assessment	: Classification criteria are not met.
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Acetylene

EC50 48h - Daphnia magna	: 242 mg/l
EC50 72h - Algae	: 57 mg/l
LC50 96 h - Fish	: 545 mg/l

12.2. Persistence and degradability

Assessment	: Will rapidly degrade by indirect photolysis in air. Will not undergo hydrolysis.
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12.3. Bioaccumulative potential

Assessment	: Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.
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12.4. Mobility in soil

Assessment	: Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.
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12.5. Results of PBT and vPvB assessment

Assessment	: Not classified as PBT or vPvB.
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12.6. Other adverse effects

Other adverse effects	: No known effects from this product.
Effect on the ozone layer	: None.
Effect on global warming	: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

	Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at http://www.eiga.eu for more guidance on suitable disposal methods. Return unused product in original receptacle to supplier.
List of hazardous waste codes (from Commission Decision 2000/532/EC as amended)	: 16 05 04 *: Gases in pressure containers (including halons) containing hazardous substances.

13.2. Additional information

Dispose of cylinder via gas supplier only. Cylinder contains a porous material which in some cases contains asbestos fibres and is saturated with a solvent (acetone or dimethylformamide).
External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

14.1. UN number

UN-No.	: 1001
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14.2. UN proper shipping name

Transport by road/rail (ADR/RID)	: ACETYLENE, DISSOLVED
Transport by air (ICAO-TI / IATA-DGR)	: Acetylene, dissolved
Transport by sea (IMDG)	: ACETYLENE, DISSOLVED

14.3. Transport hazard class(es)

Labelling



2.1 : Flammable gases.

Transport by road/rail (ADR/RID)

Class	: 2
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Acetylene

Classification code : 4F
Hazard identification number : 239
Tunnel Restriction : B/D - Tank carriage : Passage forbidden through tunnels of category B, C, D and E. Other carriage : Passage forbidden through tunnels of category D and E

Transport by air (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)) : 2.1

Transport by sea (IMDG)

Class / Div. (Sub. risk(s)) : 2.1
Emergency Schedule (EmS) - Fire : F-D
Emergency Schedule (EmS) - Spillage : S-U

14.4. Packing group

Transport by road/rail (ADR/RID) : Not applicable
Transport by air (ICAO-TI / IATA-DGR) : Not applicable
Transport by sea (IMDG) : Not applicable

14.5. Environmental hazards

Transport by road/rail (ADR/RID) : None.
Transport by air (ICAO-TI / IATA-DGR) : None.
Transport by sea (IMDG) : None.

14.6. Special precautions for user

Packing Instruction(s)

Transport by road/rail (ADR/RID) : P200
Transport by air (ICAO-TI / IATA-DGR)
Passenger and Cargo Aircraft : Forbidden.
Cargo Aircraft only : 200.
Transport by sea (IMDG) : P200

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
Before transporting product containers:
- Ensure there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure container valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.

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

Not applicable.

SECTION 15: Regulatory information

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

EU-Regulations

Restrictions on use : None.
Seveso Directive : 2012/18/EU (Seveso III) : Listed.

National regulations

National legislation : Ensure all national/local regulations are observed.

15.2. Chemical safety assessment

A CSA has been carried out.

SECTION 16: Other information

Indication of changes : Revised safety data sheet in accordance with commission regulation (EU) No 453/2010.
Abbreviations and acronyms : ATE: Acute Toxicity Estimate
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstract Service

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LC50 - Lethal Concentration to 50 % of a test population

RMM: Risk Management Measures

PBT - Persistent, Bioaccumulative and Toxic

vPvB - Very Persistent and Very Bioaccumulative

STOT- SE: Specific Target Organ Toxicity - Single Exposure

CSA: Chemical Safety Assessment

EN: European Standard

UN: United Nations

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

IATA - International Air Transport Association

IMDG code - International Maritime Dangerous Goods

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

WGK: Water Hazard Class

STOT - RE: Specific Target Organ Toxicity - Repeated Exposure

Training advice

: Ensure operators understand the flammability hazard.

DISCLAIMER OF LIABILITY

: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Details given in this document are believed to be correct at the time of going to press.

Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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Annex to the safety data sheet

This Annex documents the Exposure Scenarios (ESs) related to the identified uses of the registered substance. The ESs detail protective measures for workers and the environment in addition to those described in sections 7, 8, 11, 12 and 13 of the SDS that are required to ensure that the potential exposure to workers and the environment remains within acceptable levels for each of the identified uses

Table of contents of the Annex			
Identified uses	Es N°	Short title	Page
Formulation of mixtures in pressure receptacles	EIGA001-1	Industrial uses, closed contained conditions	10
Transfilling in pressure receptacles	EIGA001-1	Industrial uses, closed contained conditions	10
Calibration of analysis equipment	EIGA001-1	Industrial uses, closed contained conditions	10
Feedstock in chemical processes	EIGA001-1	Industrial uses, closed contained conditions	10
Fuel gas for welding, cutting, heating, brazing and soldering applications.	EIGA001-1	Industrial uses, closed contained conditions	10
Fuel gas for welding, cutting, heating, brazing and soldering applications.	EIGA001-2	Professional uses	11

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1. EIGA001-1: Industrial uses, closed contained conditions

1.1 Title section

Processes, tasks, activities covered	Industrial uses, including product transfers and associated laboratory activities within different closed or contained systems
Environment	Use descriptors
CS1	ERC1, ERC2, ERC4, ERC6a, ERC6b, ERC7, ERC8d
Worker	Use descriptors
CS2	PROC1, PROC2, PROC3, PROC8b, PROC9
Assessment method	ECETOC TRA 2.0

1.2 Conditions of use affecting exposure

1.2.1 Control of environmental exposure: ERC1, ERC2, ERC4, ERC6a, ERC6b, ERC7, ERC8d

ERC1	Manufacture of substances
ERC2	Formulation of preparations
ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC6a	Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b	Industrial use of reactive processing aids
ERC7	Industrial use of substances in closed systems
ERC8d	Wide dispersive outdoor use of processing aids in open systems

Product (article) characteristics

Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	<= 100 %

Amount used, frequency and duration of use (or from service life)

The actual tonnage handled per site is not considered to influence the immissions as such for this scenario as there is practically no release	
Emission Days (days/year)	260

Technical and organisational conditions and measures

Ensure operatives are trained to minimise releases
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Conditions and measures related to sewage treatment plant

Wastewater emission controls are not applicable as there is no direct release to wastewater

Conditions and measures related to treatment of waste (including article waste)

See section 13 of the SDS

Other conditions affecting environmental exposure

No additional information

1.2.2. Control of worker exposure: PROC1, PROC2, PROC3, PROC8b, PROC9

PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Product (article) characteristics

Physical form of product	Fare riferimento alla sezione 9 della SDS, Nessuna informazione supplementare
Concentration of substance in product	<= 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation (industrial vs. professional) and level of containment/automation (as reflected in the PROCs and technical conditions) is the main determinant of the process-intrinsic emission potential	
Exposure duration	<= 8 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures

See section 7 of the SDS
Handle product within a closed system
Apply a good standard of general or controlled ventilation when maintenance activities are carried out
Ensure operatives are trained to minimise exposure
Ensure supervision is in place to check that the RMMs are in place and are being used correctly and that the OCs are being followed

Conditions and measures related to personal protection, hygiene and health evaluation

See section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use

1.3 Exposure estimation and reference to its source

1.3.1. Exposure estimation and reference to its source

The substance is not classified for human health hazards or for environment effects and it is not PBT or vPvB so that no exposure assessment or risk characterisation is required

1.3.2. Worker exposure: PROC1, PROC2, PROC3, PROC8b, PROC9

The substance is not classified for human health hazards or for environment effects and it is not PBT or vPvB so that no exposure assessment or risk characterisation is required

1.4 Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

1.4.1. Environment

Guidance – Environment	Check that RMMs and OCs are as described above or of equivalent efficiency
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1.4.2. Health

Guidance – Environment	Check that RMMs and OCs are as described above or of equivalent efficiency
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2. EIGA001-2: Professional uses

2.1 Title section

Processes, tasks, activities covered	Professional uses, including transfer of product in non-industrial settings
Environment	Use descriptors
CS1	ERC9a, ERC9b
Worker	Use descriptors
CS2	PROC4, PROC8a
Assessment method	ECETOC TRA 2.0

2.2 Conditions of use affecting exposure

2.2.1. Control of environmental exposure: ERC9a, ERC9b

ERC9a	Wide dispersive indoor use of substances in closed systems
ERC9b	Wide dispersive outdoor use of substances in closed systems

Product (article) characteristics

Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	<= 100 %

Amount used, frequency and duration of use (or from service life)

No additional information

Technical and organisational conditions and measures

Ensure operatives are trained to minimise exposure
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Conditions and measures related to sewage treatment plant

No additional information

Conditions and measures related to treatment of waste (including article waste)

See section 13 of the SDS

Other conditions affecting environmental exposure

Closed systems are used in order to prevent unintended emissions
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2.2.2. Control of worker exposure: PROC4, PROC8a

PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises
PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities

Product (article) characteristics

Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	<= 100 %

Amount used (or contained in articles), frequency and duration of use/exposure

The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation (industrial vs. professional) and level of containment/automation (as reflected in the PROCs and technical conditions) is the main determinant of the process-intrinsic emission potential.

Exposure duration	<= 8 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures

Handle product within a closed system
Apply a good standard of general or controlled ventilation when maintenance activities are carried out.
See section 7 of the SDS.
Ensure operatives are trained to minimise exposure
Ensure supervision is in place to check that the RMMs are in place and are being used correctly and that the OCs are being followed

Conditions and measures related to personal protection, hygiene and health evaluation

See section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use

2.3 Exposure estimation and reference to its source

2.3.1. Environmental release and exposure: ERC9a, ERC9b

The substance is not classified for human health hazards or for environment effects and it is not PBT or vPvB so that no exposure assessment or risk characterisation is required.

2.3.2. Worker exposure: PROC4, PROC8a

The substance is not classified for human health hazards or for environment effects and it is not PBT or vPvB so that no exposure assessment or risk characterisation is required.

2.4 Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

2.4.1. Environment

Guidance – Environment	Check that RMMs and OCs are as described above or of equivalent efficiency
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2.4.2. Health

Guidance – Health	Check that RMMs and OCs are as described above or of equivalent efficiency
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