

**Ethane****ETHAN\_051A-SE**

F+ : Extremely flammable



2.1 : Flammable gases

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name : Ethane , Etan N25, Etan N55  
SDS Nr : ETHAN\_051A-SE replaces ETHAN 051A-SE 2014/07/24  
Chemical description : Ethane  
CAS No :74-84-0  
EC No :200-814-8  
Index No :601-002-00-X  
Registration-No. : Registration deadline not expired.  
Chemical formula : C2H6

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

Relevant identified uses : Industrial and professional. Perform risk assessment prior to use.  
Test gas/Calibration gas. Laboratory use. Chemical reaction / Synthesis.  
Contact supplier for more information on uses.

**1.3. Details of the supplier of the safety data sheet**

Company identification : AIR LIQUIDE GAS AB  
Lundavägen 151  
212 24 Malmö SWEDEN  
Tfn. 040 - 38 10 00, efter kontorstid 0220- 396 00  
E-Mail address )competent person) : Info.sweden@airliquide.com

**1.4. Emergency telephone number**

Emergency telephone number : 112

**SECTION 2. Hazards identification****2.1. Classification of the substance or mixture**

Classification EC 67/548 or EC 1999/45

: F+; R12

**2.2. Label elements**

Labelling EC 67/548 or EC 1999/45

• Symbol(s)



• R Phrase(s)

: F+ : Extremely flammable  
: R12 : Extremely flammable.

• S Phrase(s)

: S9 : Keep container in a well-ventilated place.  
S16 : Keep away from sources of ignition - No smoking.  
S33 : Take precautionary measures against static discharges.

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**Ethane****ETHAN\_051A-SE****SECTION 2. Hazards identification )continued)****2.3. Other hazards**

: Contact with liquid may cause cold burns/frostbite.

**SECTION 3. Composition/information on ingredients****3.1. Substance / 3.2. Mixture**

Substance.

Substance name	Content [Vol-%]	CAS No EC No Index No Registration No.	Classification% DSD%	Classification% LP%
Ethane	: 100 %	74-84-0 200-814-8 601-002-00-X * 2	F+; R12	Flam. Gas 1 (H220) Press. Gas (Liq.) (H280)

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

\* 1: Listed in Annex IV / V REACH, exempted from registration.

\* 2: Registration deadline not expired.

\* 3: Registration not required: Substance manufactured or imported &lt; 1t/y.

Full text of R-phrases see section 16. Full text of H-statements see section 16.

**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. Apply artificial respiration if breathing stopped.
- Skin contact : For liquid spillage - flush with water for at least 15 minutes.
- 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**

: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/ consciousness. Victim may not be aware of asphyxiation.  
In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.

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

: None.

**SECTION 5. Fire-fighting measures****5.1. Extinguishing media**

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

**5.2. Special hazards arising from the substance or mixture**

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

**Ethane****ETHAN\_051A-SE****SECTION 5. Fire-fighting measures )continued)****5.3. Advice for fire-fighters****Specific methods**

: If possible, stop flow of product.  
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.  
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.  
Use water spray or fog to knock down fire fumes if possible.  
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 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**

: Evacuate area.  
Try to stop release.  
Consider the risk of potentially explosive atmospheres.  
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.  
Ensure adequate air ventilation.  
Eliminate ignition sources.  
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.  
Stay upwind.  
Act in accordance with local emergency plan.

**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**

: Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations.  
The product must be handled in accordance with good industrial hygiene and safety procedures. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.  
Take precautionary measures against static discharge.  
Purge air from system before introducing gas.  
Keep away from ignition sources (including static discharges).  
Do not smoke while handling product.  
Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment. Consider the use of only non-sparking tools.  
Ensure the complete gas system was (or is regularly) checked for leaks before use.  
Do not breathe gas.

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**Ethane****ETHAN\_051A-SE****SECTION 7. Handling and storage )continued)****Safe handling of the gas receptacle**

Avoid release of product into atmosphere.

: Refer to supplier's container handling instructions.  
Suck back of water into the container must be prevented.  
Do not allow backfeed into the container.  
Protect cylinders from physical damage; do not drag, roll, slide or drop.  
When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.  
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 cylinder 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 cylinder/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 cylinder contents.

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

: Segregate from oxidant gases and other oxidants in store.  
Observe all regulations and local requirements regarding storage of containers.  
Keep container below 50°C in a well ventilated 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. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition.  
Keep away from combustible materials. All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere.  
Containers should not be stored in conditions likely to encourage corrosion.

**7.3. Specific end use(s)**

: None.

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters**

**DNEL: Derived no effect level )Workers)** : No data available.

**PNEC: Predicted no effect concentration** : No data available.

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls** : Gas detectors should be used when flammable gases/vapours may be released.  
Consider work permit system e.g. for maintenance activities.  
Systems under pressure should be regularly checked for leakages.  
Provide adequate general and local exhaust ventilation.  
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. For tasks where the intervention of workers is required, the substance must be handled in accordance with good industrial hygiene and safety procedures.

**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.  
Wear safety glasses with side shields or goggles when transfilling or breaking transfer connections.  
Standard EN 166 - Personal eye-protection.

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**SECTION 8. Exposure controls/personal protection )continued)**

- **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 ISO 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.  
Recommended: Filter AX (brown).  
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 full face mask - EN 136.
  - **Thermal hazards** : None necessary.
- 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**

<b>Appearance</b>	
<b>Physical state at 20°C / 101.3kPa</b>	: Gas.
<b>Colour</b>	: Colourless.
<b>Odour</b>	: Odourless. Stenchant often added.
<b>pH value</b>	: Not applicable for gases and gas-mixtures.
<b>Molar mass [g/mol]</b>	: 30
<b>Melting point [°C]</b>	: -183
<b>Boiling point [°C]</b>	: -88.6
<b>Critical temperature [°C]</b>	: 32
<b>Flash point [°C]</b>	: Not applicable for gases and gas-mixtures.
<b>Evaporation rate )ether=1)</b>	: Not applicable for gases and gas-mixtures.
<b>Flammability range [vol% in air]</b>	: 2.4 - 14.3
<b>Vapour pressure [20°C]</b>	: 37.8 bar
<b>Relative density, gas %air=1%</b>	: 1
<b>Relative density, liquid %water=1%</b>	: 0.54
<b>Solubility in water [mg/l]</b>	: 61
<b>Partition coefficient n-octanol/water [log Kow]</b>	: 1.81
<b>Auto-ignition temperature [°C]</b>	: 515
<b>Viscosity at 20°C [mPa.s]</b>	: Not applicable.
<b>Explosive Properties</b>	: Not applicable.
<b>Oxidising Properties</b>	: None.

**9.2. Other information**

<b>Other data</b>	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
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**Ethane****ETHAN\_051A-SE****SECTION 10. Stability and reactivity****10.1. Reactivity**

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

**10.2. Chemical stability**

: Stable under normal conditions.

**10.3. Possibility of hazardous reactions**: May react violently with oxidants.  
Can form explosive mixture with air.**10.4. Conditions to avoid**

: Keep away from heat, sparks, open flames, hot surfaces. – No smoking.

**10.5. Incompatible materials**: Air, Oxidiser.  
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	: No known toxicological effects from this product.
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.
Carcinogenicity	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.
Reproductive toxicity	: 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**

EC50 48h - Daphnia magna [mg/l]	: 46.6
EC50 72h Algae [mg/l]	: 16.5
LC50-96 h - fish [mg/l]	: 91.4

**12.2. Persistence and degradability**

: The substance is biodegradable. Unlikely to persist.

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

: Because of its high volatility, the product is unlikely to cause ground or water pollution.

**Ethane****ETHAN\_051A-SE****SECTION 12. Ecological information )continued)****12.5. Results of PBT and vPvB assessment**

: Not classified as PBT or vPvB.  
Not classified as PBT or vPvB.

**12.6. Other adverse effects**

Effect on the ozone layer : None.  
Global warming potential [CO<sub>2</sub>=1] : 6  
Effect on global warming : When discharged in large quantities may contribute to the greenhouse effect.

**SECTION 13. Disposal considerations****13.1. Waste treatment methods**

: Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.  
Do not discharge into any place where its accumulation could be dangerous.  
Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.  
Ensure that the emission levels from local regulations or operating permits are not exceeded.  
Consult supplier for specific recommendations.

List of hazardous waste codes )from  
Commission Decision 2001/118/EC)

: 16 05 04: Gases in pressure containers (including halons) containing dangerous substances.

**13.2. Additional information**

: None.

**SECTION 14. Transport information**

UN number : 1035  
Labelling ADR, IMDG, IATA



: 2.1 : Flammable gases

Transport by road/rail )ADR/RID)  
Transport by air )ICAO-TI / IATA-DGR)  
Transport by sea )IMDG)

Classification code : 2 F

H.J. nr : 23

Tunnel Restriction : B/D Tank carriage: Passage forbidden through tunnels of category B, C, D E; Other carriage:  
Passage forbidden through tunnels of category D and E

Emergency Schedule )EmS) - Fire : F-D

Emergency Schedule )EmS) - Spillage : S-U

**14.6 Special precautions for user**

Packing Instruction(s) : P200  
Passenger and Cargo Aircraft : FORBIDDEN.  
Cargo Aircraft only : Allowed.  
Packing instruction - Cargo Aircraft only : 200

**Ethane****ETHAN\_051A-SE****SECTION 14. Transport information )continued)**

<b>Special precautions for user</b>	: 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 that containers are firmly secured. - Ensure cylinder 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. - Ensure there is adequate ventilation.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	: Not applicable.
<b>UN proper shipping name</b>	: ETHANE
<b>Transport hazard class(es)</b>	: 2
<b>Environmental hazards</b>	: None.
<b>Proper shipping name</b>	: ETHANE
<b>Class</b>	: 2.1
<b>Packing instruction</b>	: P200
<b>IMDG-Marine pollutant</b>	: -
<b>Proper shipping name (IATA)</b>	: ETHANE
<b>Class</b>	: 2.1

**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**EU legislation

<b>Restrictions on use</b>	: None.
<b>Seveso directive 2012/18/EC</b>	: Listed.

National legislation

<b>National legislation</b>	: Ensure all national/local regulations are observed.
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**15.2. Chemical safety assessment**

	: A CSA has been carried out. Refer to section 8.2. An exposure assessment does not need to be carried out for this product.
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**SECTION 16. Other information**

<b>Indication of changes</b>	: Revised safety data sheet in accordance with commission regulation (EU) No 2015/830.
<b>Training advice</b>	: Ensure operators understand the flammability hazard. The hazard of asphyxiation is often overlooked and must be stressed during operator training.
<b>List of full text of R-phrases in section 3.</b>	: R12 : Extremely flammable.
<b>List of full text of H-statements in section 3.</b>	: H220 - Extremely flammable gas. H280 - Contains gas under pressure; may explode if heated.
<b>Further information</b>	: This Safety Data Sheet has been established in accordance with the applicable European Union legislation.
<b>DISCLAIMER OF LIABILITY</b>	: 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. Details given in this document are believed to be correct at the time of going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.





**SAFETY DATA SHEET**  
**in accordance with REACH**  
**regulation 1907/2006/EC**

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**SECTION 16. Other information )continued)**

**End of document**

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