Safety data sheet

according to 1907/2006/EC, Article 31 (REACH)

Printing date 30.07.2018 *Revision: 30.10.2017*

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

· ***1.1 Product identifier***

· ***Trade name:*** Ethylene glycol monomethyl ether, reagent grade, ACS

· ***Article number:*** ET0192
· ***CAS Number:***
109-86-4
· ***EC number:***
203-713-7
· ***Index number:***
603-011-00-4
· ***Registration number*** 01-2119494721-33-XXXX
· ***1.2 Relevant identified uses of the substance or mixture and uses advised against***
· ***Process category***
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC15 Use as laboratory reagent
· ***Application of the substance / the preparation:*** Laboratory reagent

· ***1.3 Details of the supplier of the safety data sheet***
· ***Manufacturer/Supplier:***
Scharlab, S.L.
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa
08181 Sentmenat (Barcelona) SPAIN
Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65
email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com
· ***Regional representation:***
Scharlab, S.L.
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa
08181 Sentmenat (Barcelona) SPAIN
Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65
email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com

· ***Further information obtainable from:*** technical department
· ***1.4 Emergency telephone number:***
Please contact the regional Scharlab distributor/dealer in your country
During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

SECTION 2: Hazards identification

· ***2.1 Classification of the substance or mixture***
· ***Classification according to Regulation (EC) No 1272/2008***

GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

GHS08 health hazard

Repr. 1B H360FD May damage fertility. May damage the unborn child.
STOT SE 1 H370 Causes damage to organs.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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GHS07

Acute Tox. 4 H302	Harmful if swallowed.
Acute Tox. 4 H312	Harmful in contact with skin.
Acute Tox. 4 H332	Harmful if inhaled.

· ***2.2 Label elements***
· ***Labelling according to Regulation (EC) No 1272/2008***
The substance is classified and labelled according to the CLP regulation.
· ***Hazard pictograms***


GHS02 GHS07 GHS08

· ***Signal word*** Danger
· ***Hazard statements***

H226	Flammable liquid and vapour.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

· ***Precautionary statements***

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

SECTION 3: Composition/information on ingredients

· ***3.1 Chemical characterisation: Substances***
· ***CAS No. Description***
109-86-4 2-methoxyethanol
· ***Identification number(s)***
· ***EC number:*** 203-713-7
· ***Index number:*** 603-011-00-4
· ***SVHC***
109-86-4 2-methoxyethanol

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SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:***
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· ***After inhalation:***
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· ***After skin contact:*** Generally the product does not irritate the skin.
· ***After eye contact:*** Rinse opened eye for several minutes under running water.
· ***After swallowing:*** Call for a doctor immediately.
· ***4.2 Most important symptoms and effects, both acute and delayed***
No further relevant information available.
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***5.2 Special hazards arising from the substance or mixture***
No further relevant information available.
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** Mouth respiratory protective device.

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
· ***6.2 Environmental precautions:***
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· ***6.3 Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· ***Information about fire - and explosion protection:***
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

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Keep respiratory protective device available.

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** No special requirements.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:*** Keep container tightly sealed.
· ***7.3 Specific end use(s)*** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

· ***8.1 Control parameters***
· ***Ingredients with limit values that require monitoring at the workplace:***

109-86-4 2-methoxyethanol

WEL Long-term value: 3 mg/m³, 1 ppm
Sk

· ***Additional information:*** The lists valid during the making were used as basis.

· ***8.2 Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· ***Respiratory protection:***
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· ***Protection of hands:***

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:***

Tightly sealed goggles

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SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***
Form: Fluid
Colour: Colourless
· ***Odour:*** Ether-like
· ***Odour threshold:*** Not determined.

· ***pH-value:*** 4-7

· ***Change in condition***
Melting point/freezing point: -85.1 °C
Initial boiling point and boiling range: 123.5-125.5 °C

· ***Flash point:*** 38 °C

· ***Flammability (solid, gas):*** Not applicable.

· ***Ignition temperature:*** 310 °C

· ***Decomposition temperature:*** Not determined.

· ***Auto-ignition temperature:*** Not determined.

· ***Explosive properties:*** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· ***Explosion limits:***
Lower: 2.4 Vol %
Upper: 20.6 Vol %

· ***Vapour pressure at 40 °C:*** ~11 hPa

· ***Density at 20 °C:*** 0.964-0.966 g/cm³
· ***Relative density*** Not determined.
· ***Vapour density*** Not determined.
· ***Evaporation rate*** Not determined.

· ***Solubility in / Miscibility with water:*** Fully miscible.

· ***Partition coefficient: n-octanol/water:*** Not determined.

· ***Viscosity:***
Dynamic at 20 °C: 1.7 mPas
Kinematic: Not determined.
· ***9.2 Other information*** No further relevant information available.

SECTION 10: Stability and reactivity

· ***10.1 Reactivity*** No further relevant information available.
· ***10.2 Chemical stability***
· ***Thermal decomposition / conditions to be avoided:***
No decomposition if used according to specifications.
· ***10.3 Possibility of hazardous reactions*** No dangerous reactions known.
· ***10.4 Conditions to avoid*** No further relevant information available.
· ***10.5 Incompatible materials:*** No further relevant information available.

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· ***10.6 Hazardous decomposition products:*** No dangerous decomposition products known.

SECTION 11: Toxicological information

· ***11.1 Information on toxicological effects***
· ***Acute toxicity***
Harmful if swallowed, in contact with skin or if inhaled.
· ***LD/LC50 values relevant for classification:***

Oral	LD50	3,400 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	1,500 mg/l (rat)

· ***Primary irritant effect:***
· ***Skin corrosion/irritation*** Based on available data, the classification criteria are not met.
· ***Serious eye damage/irritation*** Based on available data, the classification criteria are not met.
· ***Respiratory or skin sensitisation*** Based on available data, the classification criteria are not met.
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***Germ cell mutagenicity*** Based on available data, the classification criteria are not met.
· ***Carcinogenicity*** Based on available data, the classification criteria are not met.
· ***Reproductive toxicity***
May damage fertility. May damage the unborn child.
· ***STOT-single exposure***
Causes damage to organs.
· ***STOT-repeated exposure***
May cause damage to organs through prolonged or repeated exposure.
· ***Aspiration hazard*** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· ***12.1 Toxicity***
· ***Aquatic toxicity:*** No further relevant information available.
· ***12.2 Persistence and degradability*** No further relevant information available.
· ***12.3 Bioaccumulative potential*** No further relevant information available.
· ***12.4 Mobility in soil*** No further relevant information available.
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.
· ***12.6 Other adverse effects*** No further relevant information available.

SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· ***Uncleaned packaging:***
· ***Recommendation:*** Disposal must be made according to official regulations.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**
· **ADR, IMDG, IATA** UN1188
· **14.2 UN proper shipping name**
· **ADR** 1188 ETHYLENE GLYCOL MONOMETHYL ETHER
· **IMDG, IATA** ETHYLENE GLYCOL MONOMETHYL ETHER
· **14.3 Transport hazard class(es)**
· **ADR, IMDG, IATA**

· **Class** 3 Flammable liquids.
· **Label** 3
· **14.4 Packing group**
· **ADR, IMDG, IATA** III
· **14.5 Environmental hazards:**
· **Marine pollutant:** No
· **14.6 Special precautions for user** Warning: Flammable liquids.
· **Danger code (Kemler):** 30
· **EMS Number:** 3-06
· **Stowage Category** A
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
· **Transport/Additional information:**

· **ADR**
· **Limited quantities (LQ)** 5L
· **Transport category** 3
· **Tunnel restriction code** D/E
· **UN "Model Regulation":** UN 1188 ETHYLENE GLYCOL MONOMETHYL ETHER, 3, III

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **Seveso category**
H3 STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE
P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 30, 40

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· ***National regulations:***

· ***Other regulations, limitations and prohibitive regulations***
· ***Substances of very high concern (SVHC) according to REACH, Article 57***
109-86-4 2-methoxyethanol
· ***15.2 Chemical safety assessment:*** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

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

· ***Classification according to Regulation (EC) No 1272/2008***
The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· ***Department issuing SDS:*** product safety department
· ***Contact:*** msds@scharlab.com
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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Annex: Exposure scenario

· ***1 - Short title of the exposure scenario***
Industrial use
Laboratory use
· ***Sector of Use***
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
· ***Product category*** PC21 Laboratory chemicals
· ***Process category*** PROC15 Use as laboratory reagent
· ***Environmental release category***
ERC1 Manufacture of the substance
ERC6a Use of intermediate
· ***Description of the activities / processes covered in the Exposure Scenario***
See section 1 of the annex to the Safety Data Sheet.
· ***2 - Conditions of use***
· ***Duration and frequency***
8hrs (full working shift).
Emission days (days/year): 300
· ***Environment***
Avoid contact to soil and / or ground water during application.
The product may not be released into the environment without control.
The product may not be released into the aquatic environment without pre-treatment (biological purification plant).
Estimated substance removal from wastewater via domestic sewage treatment (%): 87.3
· ***Physical parameters***
· ***Physical state*** Fluid
· ***Concentration of the substance in the mixture***
Raw material.
It covers a percentage of substance in the product up to 100 %
· ***Used amount per time or activity*** 6000 tons per year
· ***Other operational conditions***
· ***Other operational conditions affecting environmental exposure*** No special measures required.
· ***Other operational conditions affecting worker exposure***
Avoid contact with the skin.
Assumes use at not more than 20 ºC above ambient temperature, unless stated differently.
Do not breathe gas/vapour/aerosol.
· ***Risk management measures***
· ***Worker protection***
· ***Organisational protective measures***
Handle in a fume cupboard or under extract ventilation
Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.
Ensure that activities are executed by specialists or authorised personnel only.
Keep good industrial hygiene.
Surround with a dyke storage facilities to prevent contamination of soil and water in case of spillage
· ***Technical protective measures***
Ensure that suitable extractors are available on processing machines
· ***Personal protective measures***
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Pregnant women should strictly avoid inhalation or skin contact.

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In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· ***Measures for consumer protection*** Ensure adequate labelling.
· ***Environmental protection measures***
· ***Air*** No special measures required.
· ***Water***
The product should not be released into water without pretreatment. An on-site wastewater treatment is recommended. The typical site treatment technology of wastewater achieves removal efficiency (%): (87.3)
Size of sewage treatment plant (m3/d): 2000
· ***Soil*** Prevent contamination of soil.
· ***Disposal measures***
Disposal must be made according to official regulations.
Ensure that waste is collected and contained.
Ensure that all wastewater is collected and treated in a wastewater treatment plant.
· ***Disposal procedures***
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· ***Waste type*** Partially emptied and uncleaned packaging
· ***3 - Exposure estimation***
· ***Worker (dermal)***
PROC 15: 0.34 (mg/kg/d)
The exposure estimation was carried out in accordance with ECETOC TRA.
Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
· ***Worker (inhalation)***
PROC 15: 0.32 (mg/m3)
The exposure estimation was carried out in accordance with ECETOC TRA.
Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
· ***Consumer*** Not relevant for this Exposure Scenario.
· ***4 - Guidance for downstream users***
Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.
Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.
For the risk assessment, the tools recommended by ECHA can be used.