

SAFETY DATA SHEET



SABIC® Monoethylene glycol

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

1.1 Product identifier

Product name : SABIC® Monoethylene glycol
REACH Registration number : 01-2119456816-28
Index number : 603-027-00-1
EC number : 203-473-3
CAS number : 107-21-1
Product type : Liquid.
Other means of identification : 1,2-ethanediol; 1,2-dihydroxyethane; 2-hydroxyethanol; glycol alcohol; glycol; eg

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

Identified uses
Manufacture of substance Use as an intermediate Use of non-reactive processing aid at industrial site (no inclusion into or onto article) Distribution of substance Formulation and (re)packing of substances and mixtures Use in polymer production Use in coatings and Paint (Industrial use) Use in coatings, Paints, Adhesives, Sealants, Foam, Polymers (Professional use) Use in coatings and Paints and Surface treatment, other (Consumer use) Use in cleaning agents (Industrial use) Use in cleaning agents (Professional use) Use in cleaning agents (Consumer use) Use in lubricants (Industrial use) Metal working fluids (Industrial use) Metal working fluids (Professional use) Use in agrochemicals (Professional use) Use in functional fluids (Industrial use) Use in functional fluids (Professional use) Heat transfer fluids and Hydraulic fluids (Consumer use) Use in de-icing and anti-icing fluids (Professional use) Use in de-icing and anti-icing fluids (Consumer use) Laboratory activities (Industrial use and Professional use) Use in water treatment agents (Industrial use) Sealants and adhesives (Consumer use) Production of polymers, Foam, Coatings, Adhesives and Sealants (Industrial use) Use in rigid foams (Consumer use) Biocidal products (Consumer use) Water treatment chemicals (Professional use) Use in oil and gas field drilling and production operations

1.3 Details of the supplier of the safety data sheet

Supplier : SABIC Petrochemicals B.V.
 Europaboulevard 1, 6135 LD Sittard
 P.O.Box 5151, 6130 PD Sittard
 The Netherlands
e-mail address of person responsible for this SDS : sds.info@sabic.com

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

Emergency telephone number : +1-760-476-3961 (0h - 24h)
SABIC Access Code: 333619

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

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

Acute Tox. 4, H302

STOT RE 2, H373

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : ethanediol

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : No
P: No B: No T: Yes.

SECTION 2: Hazards identification

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : No
vP: No vB: No

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mono-constituent substance

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
ethanediol; ethylene glycol	EC: 203-473-3 CAS: 107-21-1 Index: 603-027-00-1	>99.9	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral) See Section 16 for the full text of the H statements declared above.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

SECTION 4: First aid measures

Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: In case of fire, use water spray (fog), foam or dry chemical.
Unsuitable extinguishing media	: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

SECTION 6: Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
ethanediol; ethylene glycol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 10 mg/m ³ 8 hours. Form: Particulate STEL: 104 mg/m ³ 15 minutes. Form: Vapour STEL: 40 ppm 15 minutes. Form: Vapour TWA: 52 mg/m ³ 8 hours. Form: Vapour TWA: 20 ppm 8 hours. Form: Vapour

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
ethanediol; ethylene glycol	DNEL	Long term Dermal	106 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	35 mg/m ³	Workers	Local
	DNEL	Long term Dermal	53 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	7 mg/m ³	Consumers	Local

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
ethanediol; ethylene glycol	Fresh water	10 mg/l	Assessment Factors
	Marine	1 mg/l	Assessment Factors
	Fresh water sediment	37 mg/kg dwt	Equilibrium Partitioning
	Marine water sediment	3.7 mg/kg dwt	Equilibrium Partitioning
	Sewage Treatment Plant	199.5 mg/l	Assessment Factors
	Soil	1.53 mg/kg dwt	Equilibrium Partitioning

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields

SECTION 8: Exposure controls/personal protection

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): butyl rubber (> 0.30 mm), nitrile rubber (> 0.38 mm), Viton®/butyl rubber (> 0.70 mm)

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type A)

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state

: Liquid.

Colour

: Colourless.

Odour

: Odourless.

Odour threshold

: Not available.

pH

: 6.5 to 7.5

Melting point/freezing point

: -13°C

Initial boiling point and boiling range

: 197°C

Flash point

: Closed cup: 111°C
Open cup: 110.85°C

Evaporation rate

: 0.01 (butyl acetate = 1)

Flammability (solid, gas)

: Not relevant/applicable due to nature of the product. (Non-flammable.)

Upper/lower flammability or explosive limits

: Lower: 1.8%
Upper: 12.8%

Vapour pressure

: 0.012 kPa [room temperature] [at Temperature (°C): 25°C]

Vapour density

: 2.14 [Air = 1]

Relative density

: 1.11

Solubility(ies)

: Easily soluble in the following materials: cold water.

Partition coefficient: n-octanol/water

: -1.36

Auto-ignition temperature

: 398°C

Decomposition temperature

: Not available.

Viscosity

: Dynamic (room temperature): 20 mPa·s

Explosive properties

: Not applicable

Oxidising properties

: No oxidising ingredients present.

SECTION 9: Physical and chemical properties

9.2 Other information

Solubility in water : 1000 g/l

Heat of combustion : -16884434 J/kg

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Take precautionary measures against electrostatic discharges.

10.5 Incompatible materials : oxidizing agents

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

Product/ingredient name	Result	Species	Dose	Exposure
ethanediol; ethylene glycol	LC50 Inhalation Vapour	Rat	>2.5 mg/l	6 hours
	LD50 Dermal	Mouse	>3500 mg/kg	-
	LD50 Oral	Rat	7712 mg/kg	-

Conclusion/Summary : Harmful if swallowed.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ethanediol; ethylene glycol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-
	Skin - Mild irritant	Rabbit	-	555 milligrams	-

Conclusion/Summary

Skin : Non-irritating to the skin.

Eyes : Non-irritating to the eyes.

Respiratory : Non-irritating to the respiratory system.

Sensitisation

Conclusion/Summary

Skin : Non-sensitiser to skin.

Respiratory : Non-sensitiser.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
ethanediol; ethylene glycol	-	Experiment: In vitro Subject: Bacteria	Negative

Conclusion/Summary : Not mutagenic in Ames test.

SECTION 11: Toxicological information**Carcinogenicity**

Conclusion/Summary : No indications for carcinogenicity.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
ethanediol; ethylene glycol	Negative	-	Negative	Rat	Oral: >1000 mg/kg	-

Conclusion/Summary : Not considered to be toxic to the reproductive system.

Teratogenicity

Conclusion/Summary : No teratogenic effect.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethanediol	Category 2	Not determined	Not determined
ethanediol; ethylene glycol	Category 2	Oral	kidneys

Aspiration hazard

Not available.

Information on likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
ethanediol; ethylene glycol	Sub-acute NOAEL Oral	Rat	200 mg/kg	33 days; 7 days per week
	Sub-acute NOAEL Dermal	Dog	2200 mg/kg	4 weeks; 7 days per week

Conclusion/Summary	: May cause damage to organs through prolonged or repeated exposure.
General	: May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
ethanediol; ethylene glycol	EC50 6500 to 13000 mg/l	Aquatic plants - Pseudokirchnerella subcapitata	96 hours
	Acute EC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 72860 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 8590 mg/l Fresh water	Crustaceans - Ceriodaphnia sp.	7 days
	Chronic NOEC 15380 mg/l Fresh water	Fish - Pimephales promelas	7 days

Conclusion/Summary : No known significant effects or critical hazards.

12.2 Persistence and degradability

Conclusion/Summary : This product is readily biodegradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanediol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
ethanediol	-1.36	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : 1

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No
P: No B: No T: Yes.

vPvB : No
vP: No vB: No

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	Remarks This product is being carried under the scope of Annex II (MARPOL)	The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

Proper shipping name : Ethylene glycol
Ship type : 3
Pollution category : Y

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.
on the manufacture,
placing on the market
and use of certain
dangerous substances,
mixtures and articles

Other EU regulations

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Japan	: Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : All components are listed or exempted.
Malaysia	: All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: All components are listed or exempted.
United States	: All components are listed or exempted.

SECTION 15: Regulatory information

15.2 Chemical safety assessment : Complete.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 4, H302 STOT RE 2, H373	Expert judgment Expert judgment

Full text of abbreviated H statements

H302 H373 (oral) H373	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure if swallowed. May cause damage to organs through prolonged or repeated exposure.
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Full text of classifications [CLP/GHS]

Acute Tox. 4, H302 STOT RE 2, H373 (oral) STOT RE 2, H373	ACUTE TOXICITY (oral) - Category 4 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (oral) - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
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Version : 14

Notice to reader

The information contained in the Safety Data Sheet is at the date of its issuance to the best of our knowledge correct according to the data available to us. The information is meant as a guideline for safe use, handling, disposal, storage and transport of products and does not imply any warranty (not implied nor explicitly) or specification. The Supplier shall to the extent permitted by law not be liable for any error or incorrectness in the information contained in this Safety Data Sheet. The information relates exclusively to the specified products, which may not be suitable for combination with other materials or use in processes other than those specifically described here.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in coatings, Paint and Surface treatment, other (Consumer use)
List of use descriptors : **Identified use name:** Use in coatings and Paints and Surface treatment, other (Consumer use)
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08c, ERC08d, ERC08f
Market sector by type of chemical product: PC09a, PC15, PC18, PC23, PC31, PC34

Number of the ES : 9

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Coatings
Paints
Printing ink
Non-metal surface treatment products
Leather treatment products
Textile dyes and impregnating products

Physical state : Low volatile liquid

Other given operational conditions affecting consumers exposure : Assumes use at not more than 20°C above ambient temperature, unless stated differently.

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

Contributing scenarios : Use in coatings, Printing ink, Paints and Non-metal surface treatment products: Limit the substance content in the product to 5%.

Polishes and wax blends: Do not use in concentrations higher than: 2.5%

Leather treatment products:
spray application: Do not use in concentrations higher than: 10%.
No spraying: Do not use in concentrations higher than: 50%.

Textile dyes and impregnating products:
Machines, Solid: Do not use in concentrations higher than: 20%.
Machines, Liquid: Do not use in concentrations higher than: 60%.
Manual (No spraying): Do not use in concentrations higher than: 10%.
spray application: Do not use in concentrations higher than: 10%.

Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : Consexpo v4.1

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in cleaning agents (Consumer use)
List of use descriptors : **Identified use name:** Use in cleaning agents (Consumer use)
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d
Market sector by type of chemical product: PC35

Number of the ES : 12

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Cleaning Products
Physical state : Low volatile liquid
Other given operational conditions affecting consumers exposure : Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Conditions and measures related to personal protection, hygiene and health evaluation
Contributing scenarios : Use in cleaning agents

No spraying: Concentration of substance in product:20%
Dilute prior to application.: 4%

spray application: Limit the substance content in the product to 5%.

Floor cleaning.: Covers concentrations up to: 2.5%

Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : ConsExpo v4.1

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Heat transfer fluids and Hydraulic fluids (Consumer use)
List of use descriptors : **Identified use name:** Heat transfer fluids and Hydraulic fluids (Consumer use)
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b
Market sector by type of chemical product: PC16, PC17

Number of the ES : 19

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Heat transfer fluids
 Hydraulic fluids

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

Contributing scenarios : Do not use in concentrations higher than:30%

Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : Consexpo v4.1

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in de-icing and anti-icing fluids (Consumer use)
List of use descriptors : **Identified use name:** Use in de-icing and anti-icing fluids (Consumer use)
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d
Market sector by type of chemical product: PC04

Number of the ES : 21

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Use in de-icing and anti-icing fluids
Conditions and measures related to personal protection, hygiene and health evaluation
Contributing scenarios : De-icers: Covers percentage substance in the product up to 100%
 Anti-freezing agents: Covers percentage substance in the product up to XX%: 30%
 Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : ConsExpo v4.1
Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.
Health : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Adhesives, sealants (Consumer use)
List of use descriptors : **Identified use name:** Sealants and adhesives (Consumer use)
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c, ERC08f
Market sector by type of chemical product: PC01

Number of the ES : 24

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Sealants and adhesives
Conditions and measures related to personal protection, hygiene and health evaluation
Contributing scenarios : Carpet glue: Concentration of substance in product: 0.075%
 Sealants: Concentration of substance in product: 50%.
 Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : ConsExpo v4.1
Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.
Health : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

SADIC® methacrylate glycol		Adhesives, sealants (Consumer use)
Additional good practice advice beyond the REACH CSA		
Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in rigid foams (Consumer use)
List of use descriptors : **Identified use name:** Use in rigid foams (Consumer use)
Substance supplied to that use in form of: In a mixture
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08c, ERC08f
Market sector by type of chemical product: PC32

Number of the ES : 26

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Insulation foams
Conditions and measures related to personal protection, hygiene and health evaluation
Contributing scenarios : Foaming: Limit the substance content in the product to 5%.
 Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : ConsExpo v4.1
Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.
Health : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA**Environment** : Not available.**Health** : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Biocidal products (Consumer use)
List of use descriptors : **Identified use name:** Biocidal products (Consumer use)
Substance supplied to that use in form of: In a mixture
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d
Market sector by type of chemical product: PC08

Number of the ES : 27

Section 2 - Exposure controls

Control of environmental exposure

Control of consumer exposure

Product characteristics : Biocidal products
Other given operational conditions affecting consumers exposure : Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Conditions and measures related to personal protection, hygiene and health evaluation
Contributing scenarios : spray application and Wiping: Covers percentage substance in the product up to 100%
 Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.
Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Consumers

Exposure assessment (human): : Consexpo v4.1
Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment

: Not available.

Health: Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com**Additional good practice advice beyond the REACH CSA****Environment**

: Not available.

Health

: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Manufacture of substance
List of use descriptors : **Identified use name:** Manufacture of substance
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC04

Number of the ES : 1

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : High volatile liquid at Temperature (°C): 200
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: Elevated temperature. No special measures are required.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: Elevated temperature. Provide extract ventilation to points where emissions occur.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No special measures are required.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use as an intermediate
List of use descriptors : **Identified use name:** Use as an intermediate
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06a

Number of the ES : 2

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
List of use descriptors : **Identified use name:** Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Number of the ES : 3

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Production of preparation or articles by tableting, compression, extrusion or pelletisation: No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Distribution of substance
List of use descriptors : **Identified use name:** Distribution of substance
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07

Number of the ES : 4

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Formulation and (re)packing of substances and mixtures
List of use descriptors : **Identified use name:** Formulation and (re)packing of substances and mixtures
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Number of the ES : 5

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Production of preparation or articles by tableting, compression, extrusion or pelletisation: No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in polymer production
List of use descriptors : **Identified use name:** Use in polymer production
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC15
Substance supplied to that use in form of: As such, In a mixture
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC06c

Number of the ES : 6

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Calendering operations: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities:
No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line,
including weighing): No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in coatings and Paint (Industrial use)
List of use descriptors : **Identified use name:** Use in coatings and Paint (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Number of the ES : 7

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 No specific measures identified. Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Industrial spraying:
 Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
 Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
 Application 0.6 L/min
 Covers exposure up to: 6 hours/day
 Room size: =>1000 m3
 Ensure activity takes place outside the breathing zone.

Provide extract ventilation to points where emissions occur.
 Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
 Clean equipment and the work area every day.
 Ensure control measures are regularly inspected and maintained.
 Do not spray overhead.
 Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Wear suitable coveralls to prevent exposure to the skin.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities:
 No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. (Used ART model. and Used Stoffenmanager model.)

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in coatings, Paint, Adhesives, sealants, Foam, Polymers (Professional)
List of use descriptors : **Identified use name:** Use in coatings, Paints, Adhesives, Sealants, Foam, Polymers (Professional use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC14, PROC15, PROC19
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08c, ERC08d, ERC08f

Number of the ES : 8

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
or Provide extract ventilation to points where emissions occur. or Wear a respirator conforming to EN140 with type A filter or better.

Non industrial spraying:

Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.

Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.

Application 0.05 L/min

Covers exposure up to: 150 minutes per day

Room size: $\geq 100 \text{ m}^3$

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Do not spray overhead.

Clean equipment and the work area every day.

Ensure control measures are regularly inspected and maintained.

Ensure that the task is not carried out by more than one worker simultaneously.

Wear a respirator conforming to EN140 with type A filter or better. or Provide extract ventilation to points where emissions occur.

Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Wear suitable coveralls to prevent exposure to the skin.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Production of preparation or articles by tableting, compression, extrusion or pelletisation: No specific measures identified.

Laboratory activities: No specific measures identified.

Manual activities involving hand contact: Avoid carrying out activities involving exposure for more than 15 minutes. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. (Used ART model. and Used Stoffenmanager model.)

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in cleaning agents (Professional use)
List of use descriptors : **Identified use name:** Use in cleaning agents (Professional use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a

Number of the ES : 11

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 or Provide extract ventilation to points where emissions occur. or Wear a respirator

conforming to EN140 with type A filter or better.

Non industrial spraying:

Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.

Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.

Application 0.05 L/min

Covers exposure up to: 150 minutes per day

Room size: ≥ 100 m³

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Do not spray overhead.

Clean equipment and the work area every day.

Ensure control measures are regularly inspected and maintained.

Ensure that the task is not carried out by more than one worker simultaneously.

Wear a respirator conforming to EN140 with type A filter or better. or Provide extract ventilation to points where emissions occur.

Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Wear suitable coveralls to prevent exposure to the skin.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. (Used ART model. and Used Stoffenmanager model.)

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in lubricants (Industrial use)
List of use descriptors : **Identified use name:** Use in lubricants (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17, PROC18
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC07

Number of the ES : 13

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Industrial spraying:
 Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
 Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
 Application 0.6 L/min
 Covers exposure up to: 6 hours/day
 Room size: =>1000 m3
 Ensure activity takes place outside the breathing zone.
 Provide extract ventilation to points where emissions occur.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
 Clean equipment and the work area every day.
 Ensure control measures are regularly inspected and maintained.
 Do not spray overhead.
 Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Wear suitable coveralls to prevent exposure to the skin.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities. No specific measures identified. Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Lubrication at high energy conditions in metal working operations: Provide extract ventilation to points where emissions occur. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

General greasing/lubrication at high kinetic energy conditions: Provide extract ventilation to points where emissions occur.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Metal working fluids (Industrial use)
List of use descriptors : **Identified use name:** Metal working fluids (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Number of the ES : 14

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Industrial spraying:
 Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
 Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
 Application 0.6 L/min
 Covers exposure up to: 6 hours/day

Room size: =>1000 m3
 Ensure activity takes place outside the breathing zone.
 Provide extract ventilation to points where emissions occur.
 Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
 Clean equipment and the work area every day.
 Ensure control measures are regularly inspected and maintained.
 Do not spray overhead.
 Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Wear suitable coveralls to prevent exposure to the skin.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Lubrication at high energy conditions in metal working operations: Provide extract ventilation to points where emissions occur. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Metal working fluids (Professional use)
List of use descriptors : **Identified use name:** Metal working fluids (Professional use)
Process Category: PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Number of the ES : 15

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Mixing or blending in batch processes: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation, or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination

with 'basic' employee training.
or Provide extract ventilation to points where emissions occur. or Wear a respirator conforming to EN140 with type A filter or better.

Non industrial spraying:
Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
Application 0.05 L/min
Covers exposure up to: 150 minutes per day
Room size: ≥ 100 m³
Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Do not spray overhead.
Clean equipment and the work area every day.
Ensure control measures are regularly inspected and maintained.
Ensure that the task is not carried out by more than one worker simultaneously.
Wear a respirator conforming to EN140 with type A filter or better. or Provide extract ventilation to points where emissions occur.
Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Wear suitable coveralls to prevent exposure to the skin.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Lubrication at high energy conditions in metal working operations: Provide extract ventilation to points where emissions occur. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.
Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.
Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in agrochemicals (Professional use)
List of use descriptors : **Identified use name:** Use in agrochemicals (Professional use)
Process Category: PROC01, PROC02, PROC04, PROC08a, PROC08b, PROC09, PROC11, PROC13
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d, ERC08a

Number of the ES : 16

Section 2 - Exposure controls

Control of environmental exposure

Contributing scenarios : Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).

Physical state : Low volatile liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours

Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
Indoor use (Worst case assumption)
Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities
No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Non industrial spraying: Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
 Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
 Application 0.05 L/min
 Covers exposure up to: 150 minutes per day
 Room size: =>100 m³
 Provide a basic standard of general ventilation (1 to 3 air changes per hour).
 Do not spray overhead.
 Clean equipment and the work area every day.
 Ensure control measures are regularly inspected and maintained.
 Ensure that the task is not carried out by more than one worker simultaneously.
 Wear a respirator conforming to EN140 with type A filter or better.
 Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Wear suitable coveralls to prevent exposure to the skin.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. (Used ART model. and Used Stoffenmanager model.)

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in functional fluids (Professional use)
List of use descriptors : **Identified use name:** Use in functional fluids (Professional use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC09, PROC20
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b

Number of the ES : 18

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Use of functional fluids in small devices: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in de-icing and anti-icing fluids (Professional use)
List of use descriptors : **Identified use name:** Use in de-icing and anti-icing fluids (Professional use)
Process Category: PROC01, PROC02, PROC08a, PROC08b, PROC11
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d

Number of the ES : 20

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Non industrial spraying: Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.

Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.

Application 0.05 L/min

Covers exposure up to: 150 minutes per day

Room size: =>100 m³

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Do not spray overhead.

Clean equipment and the work area every day.

Ensure control measures are regularly inspected and maintained.

Ensure that the task is not carried out by more than one worker simultaneously.
Wear a respirator conforming to EN140 with type A filter or better.
Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Wear suitable coveralls to prevent exposure to the skin.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in laboratories (Industrial use and Professional use)
List of use descriptors : **Identified use name:** Laboratory activities (Industrial use and Professional use)
Process Category: PROC15
Sector of end use: SU03, SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC08a

Number of the ES : 22

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Laboratory activities: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment

: Not available.

Health

: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA**Environment**

: Not available.

Health

: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Water treatment chemicals (Industrial use)
List of use descriptors : **Identified use name:** Use in water treatment agents (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03, ERC04

Number of the ES : 23

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Production of polymers, Foam, Coatings, Adhesives, sealants (Industrial use)
List of use descriptors : **Identified use name:** Production of polymers, Foam, Coatings, Adhesives and Sealants (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC03, ERC05, ERC06c

Number of the ES : 25

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Industrial spraying:
 Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
 Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
 Application 0.6 L/min

Covers exposure up to: 6 hours/day
 Room size: >1000 m³
 Ensure activity takes place outside the breathing zone.
 Provide extract ventilation to points where emissions occur.
 Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
 Clean equipment and the work area every day.
 Ensure control measures are regularly inspected and maintained.
 Do not spray overhead.
 Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Wear suitable coveralls to prevent exposure to the skin.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Production of preparation or articles by tableting, compression, extrusion or pelletisation: No specific measures identified.

Use as laboratory reagent: No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in cleaning agents (Industrial use)
List of use descriptors : **Identified use name:** Use in cleaning agents (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Number of the ES : 10

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Industrial spraying:
 Inhalation: ART has been used to estimate workplace exposures unless otherwise indicated.
 Dermal: The RISKOFDERM tool has been used to estimate workplace exposures unless otherwise indicated.
 Application 0.6 L/min
 Covers exposure up to: 6 hours/day
 Room size: =>1000 m3
 Ensure activity takes place outside the breathing zone.
 Provide extract ventilation to points where emissions occur.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
 Clean equipment and the work area every day.
 Ensure control measures are regularly inspected and maintained.
 Do not spray overhead.
 Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Wear suitable coveralls to prevent exposure to the skin.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities:
 No specific measures identified.

Rolling, Brushing: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in functional fluids (Industrial use)
List of use descriptors : **Identified use name:** Use in functional fluids (Industrial use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC07

Number of the ES : 17

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Transfer of substance or mixture into small containers (dedicated filling line, including weighing): No specific measures identified.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Water treatment chemicals (Professional use)
List of use descriptors : **Identified use name:** Water treatment chemicals (Professional use)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08f

Number of the ES : 28

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Indoor use
 Professional use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions: No specific measures identified.

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition: No specific measures identified.

Chemical production where opportunity for exposure arises: No specific measures identified.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Transfer of substance or mixture (charging and discharging) at dedicated facilities: No specific measures identified.

Treatment of articles by dipping and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

Exposure assessment (human): : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Exposure estimation and reference to its source : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Not available.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : SABIC® Monoethylene glycol

Section 1 - Title

Short title of the exposure scenario : Use in oil and gas field drilling and production operations
List of use descriptors : **Identified use name:** Use in oil and gas field drilling and production operations
Process Category: PROC02, PROC05, PROC08a
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC07

Number of the ES : 29

Section 2 - Exposure controls

Control of environmental exposure

Control of worker exposure

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).
Physical state : Low volatile liquid
Frequency and duration of use/exposure : Covers daily exposures up to 8 hours
Other conditions affecting workers exposure : Assumes activities are at ambient temperature (unless stated differently).
 Ensure operation is undertaken outdoors.
 Industrial use

Conditions and measures related to personal protection and hygiene

Contributing scenarios : Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions: No specific measures identified.

Mixing or blending in batch processes: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities: Ensure transfer points are supplied with extract ventilation. or Wear a respirator conforming to EN140 with type A filter or better.

Section 3 - Exposure estimation and reference to its source

Website: : Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Exposure estimation and reference to its source - Environment

Exposure assessment (environment): : As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Exposure estimation and reference to its source - Workers

- Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
- Exposure estimation and reference to its source** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

- Environment** : Not available.
- Health** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further information on the assumptions contained in this exposure scenario can be found at SABIC internet: www.SABIC.com or contact sds.info@SABIC.com

Additional good practice advice beyond the REACH CSA

- Environment** : Not available.
- Health** : Not available.