Safety Data Sheet

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)

Methanol

Version number: 3.0
Replaces version of: 2022-04-05 (2)

Revision: 2024-02-23
First version: 2018-03-29

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

1.1 Product identifier

Identification of the substance	methanol
Trade name	**Methanol**
Registration number (REACH)	01-2119433307-44-0169
EC number	200-659-6
Index number in CLP Annex VI Index No (GB CLP)	603-001-00-X
CAS number	67-56-1

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

Relevant identified uses	Chemicals for synthesis Solvents

1.3 Details of the supplier of the safety data sheet

Atlantic Methanol Services B.V.
Zuidplein 126, WTC Tower H, 15th Floor
1077XV Amsterdam
Netherlands

Telephone: +31 20 240 3080
Website: www.atlanticmethanol.com

1.4 Emergency telephone number

Emergency information

24/7 ER contact number: +32 3 575 55 55 (SGS Emergency Response on behalf of Atlantic Methanol Company)

Poison centre

Country	Name	Telephone
-	SGS Emergency Response	+32 3 575 55 55

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification				
Section	**Hazard class**	**Category**	**Hazard class and category**	**Hazard statement**
2.6	flammable liquid	2	Flam. Liq. 2	H225
3.1O	acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.8	specific target organ toxicity - single exposure	1	STOT SE 1	H370

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Immediate effects can be expected after short-term exposure.
The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

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

Signal word danger

Pictograms

GHS02, GHS06, GHS08

Hazard statements

H225 Highly flammable liquid and vapour.
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
H370 Causes damage to organs (eye, central nervous system).

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P243 Take action to prevent static discharges.
P261 Avoid breathing vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Precautionary statements

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional labelling requirements see section 15 of the safety data sheet

2.3 Other hazards

Vapours may form explosive mixtures with air.

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Not listed.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance methanol

Identifiers

CAS No 67-56-1

EC No 200-659-6

Index No (GB CLP) 603-001-00-X

Molecular formula CH_4O

Molar mass 32.04 $^{g}/_{mol}$

concentration limit, M-factor, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %	-	100 $^{mg}/_{kg}$ 300 $^{mg}/_{kg}$ 3 $^{mg}/_{l}$/4h	oral dermal inhalation: vapour

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off immediately all contaminated clothing.
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

Following inhalation

Provide fresh air.
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Induce vomiting when the affected person is not unconscious.
Call a physician immediately.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects.
Headache.
Drowsiness.
Nausea.

4.3 Indication of any immediate medical attention and special treatment needed

Alcoholic beverage let be drunken in little sips

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.
Hazardous decomposition products: Section 10.
In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.
Solvent vapours are heavier than air and may spread along floors.
Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

Keep containers cool with water spray.
In case of fire and/or explosion do not breathe fumes.
Co-ordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.
Ventilate affected area.
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

In case of formation of gases/vapours/mists suppress with water spray
Keep away from drains, surface and ground water.
Retain contaminated washing water and dispose of it.
If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.
Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.
Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle and open container with care.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
Keep away from sources of ignition - No smoking.
Take precautionary measures against static discharge.
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.

Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.
Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.
Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Explosive atmospheres

Keep container tightly closed and in a well-ventilated place.
Use local and general ventilation.
Keep cool.
Protect from sunlight.

Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.
Ground/bond container and receiving equipment.
Protect from sunlight.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.
Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.
Keep cool.
Store in a dry place.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
EU	methanol	67-56-1	IOELV	200	260	-	-	H	2006/15/EC
GB	methanol	67-56-1	WEL	200	266	250	333	-	EH40/2005

Notation

H	absorbed through the skin
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels				
Endpoint	**Threshold level**	**Protection goal, route of exposure**	**Used in**	**Exposure time**
DNEL	130 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	130 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	20 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. (EN 166).

Hand protection

Protective gloves		
Material	**Material thickness**	**Breakthrough times of the glove material**
IIR: isobutene-isoprene (butyl) rubber	≥ 0,8 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,4 mm	>240 minutes (permeation: level 5)

Wear suitable gloves.
Chemical protection gloves are suitable, which are tested according to EN 374.
Check leak-tightness/impermeability prior to use.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing against liquid chemicals.
(EN 13832, EN 340, EN 14605).

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	alcohol-like
Odour threshold	10 – 20,000 ppm
Melting point/freezing point	-97.8 °C
Boiling point or initial boiling point and boiling range	64.7 °C at 1,013 hPa
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	5.5 vol% - 44 vol%
Flash point	9.7 °C at 101,325 Pa
Auto-ignition temperature	420 °C at 101,325 Pa
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined
Dynamic viscosity	>0.544 – <0.59 mPa s at 25 °C
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient n-octanol/water (log value)	-0.77
Vapour pressure	169.3 hPa at 25 °C
Density and/or relative density	
Density	0.79 $^{g}/_{cm^3}$ at 20 °C
Relative density / Relative vapour density	1.1 (air = 1)
Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	there is no additional information

Other safety characteristics

Surface tension	22.6 $^{mN}/_{m}$ (20 °C)
Refractive index	1.336 (20 °C)
Temperature class (EU, acc. to ATEX)	T1 (maximum permissible surface temperature on the equipment: 450°C)
Evaporation rate	4.1 (n-butyl acetate = 1)

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

If heated:

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.

Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.

10.5 Incompatible materials

oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgement (weight of evidence determination).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Toxic if swallowed.
Toxic in contact with skin.
Toxic if inhaled.

Exposure route	Endpoint	Value	Species	Source
oral	LD50	1,187 – 2,769 $^{mg}/_{kg}$	rat	ECHA
dermal	LD50	17,100 $^{mg}/_{kg}$	rabbit	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation
Skin sensitisation

Shall not be classified as a skin sensitiser.

Respiratory sensitisation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Hazard category	Target organ	Exposure route
1	eye	if exposed
1	central nervous system	if exposed

Specific target organ toxicity - repeated exposure

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC50	96 h	15,400 $^{mg}/_{l}$	bluegill (Lepomis macrochirus)	EPA-660/3-75-009	ECHA
EC50	96 h	12,700 $^{mg}/_{l}$	bluegill (Lepomis macrochirus)	EPA-660/3-75-009	ECHA
EC50	96 h	18,260 $^{mg}/_{l}$	daphnia magna	OECD Guideline 202	ECHA
ErC50	96 h	~22,000 $^{mg}/_{l}$	algae (pseudokirch-neriella subcapitata)	OECD Guideline 201	ECHA

Aquatic toxicity (chronic)

No data available.

12.2 Persistence and degradability

Biodegradation

The substance is readily biodegradable.

Process of degradability			
Process	**Degradation rate**	**Time**	**Source**
oxygen depletion	95 %	20 d	ECHA

Persistence

No data available.

12.3 Bioaccumulative potential

n-octanol/water (log KOW) -0.77

BCF <10
(ECHA)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 2.
Keep away from drains, surface and ground water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID	UN1230
ADR/RID/ADN	UN1230
IMDG-Code	UN1230
ICAO-TI	UN1230

14.2 UN proper shipping name

ADR/RID	METHANOL
ADR/RID/ADN	METHANOL
IMDG-Code	METHANOL
ICAO-TI	Methanol

14.3 Transport hazard class(es)

ADR/RID	3 (6.1)
ADR/RID/ADN	3 (6.1)
IMDG-Code	3 (6.1)
ICAO-TI	3 (6.1)

14.4 Packing group

ADR/RID	II
ADR/RID/ADN	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

-

14.6 Special precautions for user

-

14.7 Maritime transport in bulk according to IMO instruments

-

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) Additional information Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). Additional information

Particulars in the transport document	UN1230, METHANOL, 3 (6.1), II, (D/E)

Classification code	FT1
Danger label(s)	3+6.1

Special provisions (SP)	279, 802(ADN)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	336
Emergency Action Code	2WE

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant	-
Danger label(s)	3+6.1

Special provisions (SP)	279
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D
Stowage category	B

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s)	3+6.1

Special provisions (SP)	A113
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Not listed.

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
22	methanol	500	5,000	-

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

Not listed.

Regulation on the marketing and use of explosives precursors

Not listed.

Regulation on drug precursors

Not listed.

Regulation on substances that deplete the ozone layer (ODS)

Not listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

Not listed.

Regulation on persistent organic pollutants (POP)

Not listed.

National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

Not listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	**Name acc. to inventory**	**CAS No**	**Conditions of restriction**
methanol	Methanol	67-56-1	R69
methanol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	-	R3
methanol	flammable / pyrophoric	-	R40

Legend

R3

1. Shall not be used in:
— ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
— tricks and jokes,
— games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
— can be used as fuel in decorative oil lamps for supply to the general public, and,
— present an aspiration hazard and are labelled with R65 or H304,
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the British Standard Specification on Decorative oil lamps (BS EN 14059) adopted by the British Standards Institute.
5. Without prejudice to the implementation of other legislation relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010 'Just a sip of lamp oil
— or even sucking the wick of lamps
— may lead to life-threatening lung damage';
(b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as
follows: 'Just a sip of grill lighter may lead to life-threatening lung damage';
(c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the Agency.

Legend

R40 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
— metallic glitter intended mainly for decoration,
— artificial snow and frost,
— 'whoopee' cushions,
— silly string aerosols,
— imitation excrement,
— horns for parties,
— decorative flakes and foams,
— artificial cobwebs,
— stink bombs.
2. Without prejudice to the application of other legislation on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
'For professional users only'.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (***).
4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
(***) OJ L 147, 9.6.1975, p. 40.

R69 Shall not be placed on the market to the general public after 9 May 2019 in windscreen washing or defrosting fluids, in a concentration equal to or greater than 0.6 % by weight.

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
8.1	-	Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)
8.2	Eye/face protection: Wear eye/face protection.	Eye/face protection: Wear eye/face protection. (EN 166).
8.2	-	Body protection: Protective clothing against liquid chemicals. (EN 13832, EN 340, EN 14605).
14.1	-	ADR/RID/ADN: UN1230
14.2	-	ADR/RID/ADN: METHANOL
14.3	-	ADR/RID/ADN: 3 (6.1)
14.4	-	ADR/RID/ADN: II

Section	Former entry (text/value)	Actual entry (text/value)
15.1	Restrictions according to REACH, Annex XVII	Restrictions according to REACH, Annex XVII: Not listed.
15.1	-	Restrictions according to REACH, Annex XVII: change in the listing (table)
15.1	List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list: Not listed.	-
15.1	-	Restrictions according to GB REACH, Annex 17
15.1	-	Dangerous substances with restrictions (GB REACH, Annex 17): change in the listing (table)

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances

Abbr.	Descriptions of used abbreviations
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs (eye, central nervous system).

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 1 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)/ Distribution of substance - Industrial use

1 TITLE SECTION

Exposure Scenario name: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)/ Distribution of substance - Industrial use

Environmental release categories [ERC]

ERC2: Formulation into mixture.

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC4: Chemical production where opportunity for exposure arises.
PROC5: Mixing or blending in batch processes.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing).
PROC15: Use as laboratory reagent.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC2: Formulation into mixture.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.6 Process categories [PROC]

PROC5: Mixing or blending in batch processes.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.7 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.8 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 95 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.9 Process categories [PROC]

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing).

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.10 Process categories [PROC]

PROC15: Use as laboratory reagent.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC2: Formulation into mixture

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.013351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000103
Exposure route	combined routes
Exposure level	0.036193 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001817
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.053403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000411
Exposure route	combined routes

Exposure level	0.041915 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002125

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	3.338 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.025675
Exposure route	combined routes
Exposure level	0.7511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.039389
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.091 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.058206
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254

3.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term

Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	3.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.17127
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	9 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.479365

3.6 Process categories [PROC]

PROC5: Mixing or blending in batch processes

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes

Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	4.65 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.239841

3.7 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635

3.8 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	10.013 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.077024
Exposure route	combined routes
Exposure level	4.173 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.214167
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.154048

Exposure route	combined routes
Exposure level	5.604 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.29119

3.9 Process categories [PROC]

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	5.186 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.273968
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	9 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.479365

3.10 Process categories [PROC]

PROC15: Use as laboratory reagent

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.022 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.054778
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	1.976 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.106127

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 2 - Use as an intermediate - Industrial use

1 TITLE SECTION

Exposure Scenario name: Use as an intermediate - Industrial use

Environmental release categories [ERC]

ERC6a: Use of intermediate.

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC4: Chemical production where opportunity for exposure arises.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC15: Use as laboratory reagent.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC6a: Use of intermediate.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm^2.

2.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.6 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.7 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 95 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.9 Process categories [PROC]

PROC15: Use as laboratory reagent.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC6a: Use of intermediate

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.013351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000103
Exposure route	combined routes
Exposure level	0.036193 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001817
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.053403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000411
Exposure route	combined routes

Exposure level	0.041915 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002125

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	3.338 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.025675
Exposure route	combined routes
Exposure level	0.7511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.039389
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.091 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.058206
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254

3.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term

Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	3.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.17127
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	9 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.479365

3.6 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes

Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635

3.7 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	10.013 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.077024
Exposure route	combined routes
Exposure level	4.173 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.214167
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.154048
Exposure route	combined routes
Exposure level	5.604 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.29119

3.8 Process categories [PROC]

PROC15: Use as laboratory reagent

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.022 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.054778
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes

Exposure level	1.976 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.106127

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 3 - Use in process chemicals/ Distribution of substance - Industrial use

1 TITLE SECTION

Exposure Scenario name: Use in process chemicals/ Distribution of substance - Industrial use

Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC4: Chemical production where opportunity for exposure arises.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing).
PROC15: Use as laboratory reagent.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.6 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.7 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 95 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm^2.

2.8 Process categories [PROC]

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing).

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm^2.

2.9 Process categories [PROC]

PROC15: Use as laboratory reagent.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.013351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000103
Exposure route	combined routes

Exposure level	0.036193 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001817
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.053403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000411
Exposure route	combined routes
Exposure level	0.041915 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002125

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	3.338 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.025675
Exposure route	combined routes
Exposure level	0.7511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.039389
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.091 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.058206
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254

3.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	3.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.17127
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	9 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.479365

3.6 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635

3.7 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	10.013 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.077024
Exposure route	combined routes
Exposure level	4.173 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.214167
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.154048
Exposure route	combined routes
Exposure level	5.604 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.29119

3.8 Process categories [PROC]

PROC9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	5.186 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.273968
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	9 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.479365

3.9 Process categories [PROC]

PROC15: Use as laboratory reagent

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes

Exposure level	1.022 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.054778
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	1.976 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.106127

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 4 - Use as a fuel - Industrial use

1 TITLE SECTION

Exposure Scenario name: Use as a fuel - Industrial use

Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems.

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC16: Use of fuels.
PROC19: Manual activities involving hand contact.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm^2.

2.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm^2.

2.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm^2.

2.5 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.6 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 95 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.7 Process categories [PROC]

PROC16: Use of fuels.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 25 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.8 Process categories [PROC]

PROC19: Manual activities involving hand contact.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers concentrations up to 10 %

Frequency, Duration

Covers use up to	<=4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

1980 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.013351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000103
Exposure route	combined routes
Exposure level	0.036193 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001817
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.053403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000411
Exposure route	combined routes
Exposure level	0.041915 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002125

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term

Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	3.338 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.025675
Exposure route	combined routes
Exposure level	0.7511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.039389
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.091 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.058206
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254

3.5 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes

Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635

3.6 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	10.013 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.077024
Exposure route	combined routes
Exposure level	4.173 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.214167
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.154048
Exposure route	combined routes
Exposure level	5.604 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.29119

3.7 Process categories [PROC]

PROC16: Use of fuels

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	4.837 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.260175
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.041143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002057
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	80.105 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.61619
Exposure route	combined routes

Exposure level	11.485 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.618248

3.8 Process categories [PROC]

PROC19: Manual activities involving hand contact

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.697 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.084857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.154048
Exposure route	combined routes
Exposure level	4.558 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.238905
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.697 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.084857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	11.233 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.598349

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 5 - Use in cleaning agents - Industrial use

1 TITLE SECTION

Exposure Scenario name: Use in cleaning agents - Industrial use

Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC4: Chemical production where opportunity for exposure arises.
PROC7: Industrial spraying.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC10: Roller application or brushing.
PROC13 Treatment of articles by dipping and pouring.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

2.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

2.6 Process categories [PROC]

PROC7: Industrial spraying.

Product characteristics

Concentration of substance in product	Covers percentage substance in the product up to 25 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.
Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 %.
Assumes a good basic standard of occupational hygiene is implemented.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

1500 cm².

2.7 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.8 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 95 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.9 Process categories [PROC]

PROC10: Roller application or brushing.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers concentrations up to 80 %

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

2.10 Process categories [PROC]

PROC13 Treatment of articles by dipping and pouring.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.013351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000103
Exposure route	combined routes
Exposure level	0.036193 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001817
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.053403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000411
Exposure route	combined routes

Exposure level	0.041915 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002125

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	3.338 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.025675
Exposure route	combined routes
Exposure level	0.7511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.039389
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.091 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.058206
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254

3.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term

Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	3.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.17127
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.371 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.068571
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	9 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.479365

3.6 Process categories [PROC]

PROC7: Industrial spraying

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.107143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	19.14 mg/m³
Calculation method	EasyTRA Stoffenmanager 8
Risk Characterization Ratio (RCR)	0.147231
Exposure route	combined routes

Exposure level	4.877 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.254374
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.107143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	19.14 mg/m³
Calculation method	EasyTRA Stoffenmanager 8
Risk Characterization Ratio (RCR)	0.147231
Exposure route	combined routes
Exposure level	4.877 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.254374

3.7 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term

Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635

3.8 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	10.013 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.077024
Exposure route	combined routes
Exposure level	4.173 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.214167
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.154048
Exposure route	combined routes
Exposure level	5.604 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.29119

3.9 Process categories [PROC]

PROC10: Roller application or brushing

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	4.389 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.219429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	8.203 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.424825
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	4.389 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.219429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	12.018 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.630222

3.10 Process categories [PROC]

PROC13 Treatment of articles by dipping and pouring

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	7.511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393889
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 6 - Use as laboratory reagent - Industrial use

1 TITLE SECTION

Exposure Scenario name: Use as laboratory reagent - Industrial use

Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Process categories [PROC]

PROC10: Roller application or brushing.
PROC15: Use as laboratory reagent.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC10: Roller application or brushing.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers concentrations up to 80 %

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm^2.

2.3 Process categories [PROC]

PROC15: Use as laboratory reagent.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

240 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC10: Roller application or brushing

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	4.389 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.219429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.219429 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes

Exposure level	8.203 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.424825
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	4.389 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.219429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	12.018 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.630222

3.3 Process categories [PROC]

PROC15: Use as laboratory reagent

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.630222 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	6.675 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.051349
Exposure route	combined routes
Exposure level	1.022 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.054778
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	1.976 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.106127

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 7 - Waste water treatment - Industrial use

1 TITLE SECTION

Exposure Scenario name: Waste water treatment - Industrial use

Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems.

Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm^2.

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	3.338 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.025675
Exposure route	combined routes
Exposure level	0.7511 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.039389
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 8 - Use in oil and gas field drilling and production operations - Industrial use

1 TITLE SECTION

Exposure Scenario name: Use in oil and gas field drilling and production operations - Industrial use

Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems.

Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.
PROC5: Mixing or blending in batch processes.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	<=4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 90 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm^2.

2.3 Process categories [PROC]

PROC5: Mixing or blending in batch processes.

Product characteristics

Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %. Wear suitable respiratory protection. Assumes a good basic standard of occupational hygiene is implemented.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

480 cm^2.

2.4 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm^2.

2.5 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Industrial use

Exposed skin surface assumed:

960 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC7: Industrial use of substances in closed systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.822857 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.041143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	8.01 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.061619
Exposure route	combined routes
Exposure level	0.061619 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102762
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.822857 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.041143

Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	8.452 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.451936

3.3 Process categories [PROC]

PROC5: Mixing or blending in batch processes

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	16.688 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.128373
Exposure route	combined routes
Exposure level	2.521 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.13523
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes

Exposure level	4.905 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.263603

3.4 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	16.688 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.128373
Exposure route	combined routes
Exposure level	2.521 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.13523
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	4.905 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.263603

3.5 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	10.013 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.077024
Exposure route	combined routes
Exposure level	1.568 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.083881
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	20.026 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.154048
Exposure route	combined routes
Exposure level	2.998 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.160905

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 9 - Use as a fuel - Professional use

1 TITLE SECTION

Exposure Scenario name: Use as a fuel - Professional use

Environmental release categories [ERC]

ERC8b: Wide dispersive indoor use of reactive substances in open systems.
ERC8e: Wide dispersive outdoor use of reactive substances in open systems.

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC16: Use of fuels.
PROC19: Manual activities involving hand contact.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC8b: Wide dispersive indoor use of reactive substances in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Environmental release categories [ERC]

ERC8e: Wide dispersive outdoor use of reactive substances in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.3 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

240 cm².

2.4 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

480 cm².

2.5 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

240 cm².

2.6 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

960 cm².

2.7 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

960 cm².

2.8 Process categories [PROC]

PROC16: Use of fuels.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

240 cm².

2.9 Process categories [PROC]

PROC19: Manual activities involving hand contact.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers concentrations up to 10 %

Frequency, Duration

Covers use up to	<=4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

1980 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC8b: Wide dispersive indoor use of reactive substances in open systems
ERC8e: Wide dispersive outdoor use of reactive substances in open systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.133508 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001027
Exposure route	combined routes
Exposure level	0.053358 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002741
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.534032 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.004108
Exposure route	combined routes
Exposure level	0.110576 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.005822

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714

Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	7.903 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.424508

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes

Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	106.806 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.821587
Exposure route	combined routes
Exposure level	15.395 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.828444

3.5 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	4.905 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.263603
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	9.673 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.520349

3.6 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	16.688 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.128373
Exposure route	combined routes
Exposure level	2.521 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.13523
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.13523 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746

Exposure route	combined routes
Exposure level	4.905 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.263603

3.7 Process categories [PROC]

PROC16: Use of fuels

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	9.605 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.516921
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.041143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002057
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	112.147 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.862667
Exposure route	combined routes
Exposure level	16.062 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.864724

3.8 Process categories [PROC]

PROC19: Manual activities involving hand contact

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	1.697 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.084857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	40.052 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.308095
Exposure route	combined routes
Exposure level	7.419 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.392952
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	1.697 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.084857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	3.604 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.187556

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 10 - Use in cleaning agents - Professional use

1 TITLE SECTION

Exposure Scenario name: Use in cleaning agents - Professional use

Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.
ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC4: Chemical production where opportunity for exposure arises.
PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.
PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.
PROC10: Roller application or brushing.
PROC11: Non industrial spraying.
PROC13 Treatment of articles by dipping and pouring.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Environmental release categories [ERC]

ERC8d: Wide dispersive outdoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.3 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

240 cm².

2.4 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

480 cm².

2.5 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

240 cm².

2.6 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	<=4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

480 cm².

2.7 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

960 cm².

2.8 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

960 cm².

2.9 Process categories [PROC]

PROC10: Roller application or brushing.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

960 cm².

2.10 Process categories [PROC]

PROC11: Non industrial spraying.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers concentrations up to 3 %

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Assumes a good basic standard of occupational hygiene is implemented. Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 90 %.
Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

1500 cm².

2.11 Process categories [PROC]

PROC13 Treatment of articles by dipping and pouring.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

480 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.133508 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001027
Exposure route	combined routes
Exposure level	0.053358 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.002741
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.034286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.001714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.534032 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.004108
Exposure route	combined routes

Exposure level	0.110576 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.005822

3.3 Process categories [PROC]

PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	2.182 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.116413
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	53.403 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.410794
Exposure route	combined routes
Exposure level	7.903 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.424508

3.4 Process categories [PROC]

PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.952 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.212254
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	106.806 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.821587
Exposure route	combined routes
Exposure level	15.395 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.828444

3.5 Process categories [PROC]

PROC4: Chemical production where opportunity for exposure arises

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.822857 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.041143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term

Exposure level	40.052 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.308095
Exposure route	combined routes
Exposure level	6.545 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.349238
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.822857 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.041143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	18.691 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.143778
Exposure route	combined routes
Exposure level	3.493 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.184921

3.6 Process categories [PROC]

PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes

Exposure level	4.905 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.263603
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	9.673 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.520349

3.7 Process categories [PROC]

PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	16.688 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.128373
Exposure route	combined routes
Exposure level	2.521 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.13523
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.137143 mg/kg bw/day
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.006857
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	4.905 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.263603

3.8 Process categories [PROC]

PROC10: Roller application or brushing

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes
Exposure level	5.042 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.27046
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes

Exposure level	9.811 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.527206

3.9 Process categories [PROC]

PROC11: Non industrial spraying

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.321429 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.016071
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	71.54 mg/m³
Calculation method	EasyTRA Stoffenmanager 8
Risk Characterization Ratio (RCR)	0.550308
Exposure route	combined routes
Exposure level	10.541 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.566379
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.321429 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.016071
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	71.54 mg/m³
Calculation method	EasyTRA Stoffenmanager 8
Risk Characterization Ratio (RCR)	0.550308
Exposure route	combined routes
Exposure level	10.541 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.566379

3.10 Process categories [PROC]

PROC13 Treatment of articles by dipping and pouring

Exposure route	dermal

Health effect	systemic
Exposure indicator	long-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	12.279 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.650635
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.743 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.137143
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	4.65 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.239841

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 11 - Use as laboratory reagent - Professional use

1 TITLE SECTION

Exposure Scenario name: Use as laboratory reagent - Professional use

Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.

Process categories [PROC]

PROC10: Roller application or brushing.
PROC15: Use as laboratory reagent.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Process categories [PROC]

PROC10: Roller application or brushing.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 5 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

960 cm^2.

2.3 Process categories [PROC]

PROC15: Use as laboratory reagent.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 100 %.

Frequency, Duration

Covers use up to	>4 h/day
Use frequency	5 days per week

Technical and organisational measures

Local exhaust ventilation. Air - minimum efficiency of 80 %.

Personal protection

Wear suitable gloves tested to EN374. Dermal - minimum efficiency of 80 %.

Other conditions affecting workers exposure

Area of use	Indoor use
Main user group	Professional use

Exposed skin surface assumed:

240 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Process categories [PROC]

PROC10: Roller application or brushing

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	33.377 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.256746
Exposure route	combined routes

Exposure level	5.042 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.27046
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.274286 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.013714
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	66.754 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.513492
Exposure route	combined routes
Exposure level	9.811 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.527206

3.3 Process categories [PROC]

PROC15: Use as laboratory reagent

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	13.351 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.102698
Exposure route	combined routes
Exposure level	1.976 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.106127
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.068571 mg/kg bw/day
Calculation method	EasyTRA

Risk Characterization Ratio (RCR)	0.003429
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	26.702 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.205397
Exposure route	combined routes
Exposure level	3.883 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.208825

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

Environment

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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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 12 - Use in cleaning agents/ De-icing and anti-icing applications/ Spray application - Consumer use

1 TITLE SECTION

Exposure Scenario name: Use in cleaning agents/ De-icing and anti-icing applications/ spray application - Consumer use

Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.
ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Product categories [PC]

PC4: Anti-freeze and de-icing products - Cleaning.
PC4: Anti-freeze and de-icing products - Spraying.
PC35: Washing and cleaning products - Cleaning.
PC35: Washing and cleaning products - Spraying.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Environmental release categories [ERC]

ERC8d: Wide dispersive outdoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.3 Products Category [PC]

PC4: Anti-freeze and de-icing products - Cleaning.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	Covers percentage substance in the product up to 1 %.
Concentration of substance in product	0.59 %

Amounts used, Frequency, Duration

Covers use up to	<= 1 h/day
Amounts used	Inhalation: 16.2 g dermal long-term: 0.310 g dermal short-term: 0.160 g
Frequency	365 days per year

Other conditions affecting consumers exposure

Covers use in room size of	15 m³
Ventilation rate	2.5 ach (air changes per hour)
Release area	0.000171 cm²

Exposed skin surface assumed:

215 cm².

2.4 Products Category [PC]

PC4: Anti-freeze and de-icing products - Spraying.

Product characteristics

Spray application.

Physical form of product	Liquid
Concentration of substance in product	0.59 %
Concentration of substance in product (None Volatile)	5 %

Amounts used, Frequency, Duration

Covers use up to	<= 1 h/day
Amounts used	Inhalation: 16.2 g dermal: 0.160 g
Spray duration	13.8 sec
Release duration	28 sec
Other conditions affecting consumers exposure	
Covers use in room size of	15 m³
Ventilation rate	2.5 ach (air changes per hour)
Release area	0.000171 cm²

Exposed skin surface assumed:

2200 cm².
Skin Exposure level: 46 mg/ min

2.5 Products Category [PC]

PC35: Washing and cleaning products - Cleaning.

Product characteristics	
Physical form of product	Liquid
Concentration of substance in product	1 % (short-term) 5 % (long-term)

Amounts used, Frequency, Duration

Covers use up to	<= 1 h/day
Amounts used	Inhalation: 16.2 g dermal: 0.310 g
Frequency	365 days per year

Other conditions affecting consumers exposure	
Covers use in room size of	15 m³
Ventilation rate	2.5 ach (air changes per hour)
Release area	0.000171 cm²

Exposed skin surface assumed:

225 cm².

2.6 Products Category [PC]

PC35: Washing and cleaning products - Spraying.

Product characteristics

Spray application.

Physical form of product	Liquid
Concentration of substance in product	1 %. (Short-term) 5 %. (Long-term)

Amounts used, Frequency, Duration

Covers use up to	<= 1 h/day
Amounts used	Inhalation: 16.2 g dermal: 0.160 g
Spray duration	13.8 sec
Release duration	2824.6 sec
Other conditions affecting consumers exposure	
Covers use in room size of	15 m³
Ventilation rate	2.5 ach (air changes per hour)
Release area	0.000171 cm²

Exposed skin surface assumed:

2200 cm².
Skin Exposure level: 46 mg/ min

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Product categories [PC]

PC4: Anti-freeze and de-icing products - Cleaning

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.026584 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.006646
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.097454 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003748
Exposure route	combined routes
Exposure level	0.028526 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.010394
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.014523 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003631
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.339 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.089957
Exposure route	combined routes
Exposure level	0.06385 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.093588

3.3 Product categories [PC]

PC4: Anti-freeze and de-icing products - Spraying

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.001841 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.00046
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.012323 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000474

Exposure route	combined routes
Exposure level	0.002086 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000934
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.001841 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.00046
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.295756 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.011375
Exposure route	combined routes
Exposure level	0.007734 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.011835

3.4 Product categories [PC]

PC35: Washing and cleaning products - Cleaning

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.225291 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.056323
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.825882 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.031765
Exposure route	combined routes
Exposure level	0.241746 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.088087
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.045058 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.011265
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	3.964 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.15247
Exposure route	combined routes
Exposure level	0.124045 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.163734

3.5 Product categories [PC]

PC35: Washing and cleaning products - Spraying

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.574 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.393446
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.102838 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.003955
Exposure route	combined routes
Exposure level	1.576 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.397401
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.00312 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.00078
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.493621 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.018985

Exposure route	combined routes
Exposure level	0.012955 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.019765

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

Environment

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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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 13 - Use in cleaning agents/ De-icing and anti-icing applications/ Liquid products - Consumer use

1 TITLE SECTION

Exposure Scenario name: Use in cleaning agents/ De-icing and anti-icing applications/ liquid products - Consumer use

Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.
ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Product categories [PC]

PC4: Anti-freeze and de-icing products
PC35: Washing and cleaning products.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Environmental release categories [ERC]

ERC8d: Wide dispersive outdoor use of processing aids in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.3 Products Category [PC]

PC4: Anti-freeze and de-icing products

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	0.59 %

Amounts used, Frequency, Duration

Covers use up to	<= 4 h/day
Amounts used	Inhalation: 100 g dermal: 5 g
Frequency	197 days per year

Other conditions affecting consumers exposure

Covers use in room size of	58 m³
Ventilation rate	0.5 ach (air changes per hour)
Release area	0.000032 cm²

Exposed skin surface assumed:

2200 cm².

2.4 Products Category [PC]

PC35: Washing and cleaning products - Spraying.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	1 %.

Amounts used, Frequency, Duration

Covers use up to	<= 4 h/day
Amounts used	Inhalation: 100 g dermal: 5 g
Frequency	197 days per year
Other conditions affecting consumers exposure	
Covers use in room size of	58 m³
Ventilation rate	0.5 ach (air changes per hour)
Release area	0.000032 cm²

Exposed skin surface assumed:

2200 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Product categories [PC]

PC4: Anti-freeze and de-icing products

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.231423 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.057856
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.722239 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.027778

Exposure route	combined routes
Exposure level	0.288985 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.085634
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.428779 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.107195
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	4.333 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.166671
Exposure route	combined routes
Exposure level	0.774154 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.273866

3.3 Product categories [PC]

PC35: Washing and cleaning products

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.392243 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.098061
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.224 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.047082
Exposure route	combined routes
Exposure level	0.489806 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.145143
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.726744 mg/kg bw/day

Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.181686
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	7.345 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.282494
Exposure route	combined routes
Exposure level	1.312 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.46418

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

Environment

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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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Annex to the extended Safety Data Sheet (eSDS)

Methanol

Version number: GHS 1.0 Issue date: 2022-03-22

Exposure Scenario / ES No 14 - Use as a fuel Additive - Consumer use/ Outdoor use

1 TITLE SECTION

Exposure Scenario name: Use as a fuel Additive - Consumer use/ Outdoor use

Environmental release categories [ERC]

ERC8e: Wide dispersive outdoor use of reactive substances in open systems.

Product categories [PC]

PC13: Fuels.

2 Conditions of use affecting exposure

2.1 Environmental release categories [ERC]

ERC8e: Wide dispersive outdoor use of reactive substances in open systems.

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

2.2 Products Category [PC]

PC13: Fuels.

Product characteristics

Physical form of product	Liquid
Concentration of substance in product	2 % (short-term) 3 % (long-term)

Amounts used, Frequency, Duration

Covers use up to	10 min/day
Amounts used	Inhalation: short-term: 10 g Inhalation: long-term: 0.0005 g dermal: 10 g
Frequency	2 days per week

Other conditions affecting consumers exposure

Covers use in room size of	20 m³
Ventilation rate	0.5 ach (air changes per hour)
Release area	2 cm²

Exposed skin surface assumed:

430 cm².

3 Exposure estimation and reference to its source

3.1 Environmental release categories [ERC]

ERC8e: Wide dispersive outdoor use of reactive substances in open systems

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

3.2 Product categories [PC]

PC13: Fuels

Exposure route	dermal
Health effect	systemic
Exposure indicator	long-term
Exposure level	1.319 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.32967
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	long-term
Exposure level	0.002716 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.000104
Exposure route	combined routes
Exposure level	1.319 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.329775
Exposure route	dermal
Health effect	systemic
Exposure indicator	short-term
Exposure level	2.907 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.726744
Exposure route	Inhalation
Health effect	systemic
Exposure indicator	short-term
Exposure level	0.266072 mg/m³
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.010234
Exposure route	combined routes
Exposure level	2.908 mg/kg bw/day
Calculation method	EasyTRA
Risk Characterization Ratio (RCR)	0.736978

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

Environment

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

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. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.