



SAFETY DATA SHEET 2-DIETHYLAMINOETHANOL

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

1.1. Product identifier

Product name	2-DIETHYLAMINOETHANOL
Product number	510
Synonyms; trade names	DEAE, N, N, DIETHYLAMINOETHANOL, PENNAD, DIETHYLAMINOETHANOL, DIETHYLETHANOLAMINE, DIETHYL-(2-HYDROXYETHYL)AMINE, 2-2-DIETHYLAMINE, 2-DIETHYLAMINOETHYL ALCOHOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EU index number	603-048-00-6
EC number	202-845-2

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

Identified uses	Chemical Intermediate For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	510

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H302 Acute Tox. 3 - H311 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318
Environmental hazards	Not Classified

2.2. Label elements

EC number	202-845-2
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2-DIETHYLAMINOETHANOL

Pictogram



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H311+H331 Toxic in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapour/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P361 Remove all contaminated clothing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
EU index number	603-048-00-6
CAS number	100-37-8
EC number	202-845-2
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing. Get medical attention immediately.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting unless under the direction of medical personnel. Get medical attention.
Skin contact	Remove contaminated clothing and rinse skin thoroughly with water. Continue to rinse for at least 15 minutes. Get medical attention immediately.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

Inhalation	Toxic if inhaled.
Ingestion	Harmful if swallowed.
Skin contact	Toxic in contact with skin. Causes burns.
Eye contact	Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated.

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

Notes for the doctor	Treat symptomatically. Inhale Corticosteroid dose aerosol
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Flammable liquid and vapour. Vapours may form explosive mixtures with air.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Nitrous gases (NOx).

5.3. Advice for firefighters

Protective actions during firefighting	Containers close to fire should be removed or cooled with water. Control run-off water by containing and keeping it out of sewers and watercourses.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Take precautionary measures against static discharges.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Take precautionary measures against static discharge. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.
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6.4. Reference to other sections

Reference to other sections	Wear protective clothing as described in Section 8 of this safety data sheet.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions

Provide adequate ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Static electricity and formation of sparks must be prevented.

Advice on general occupational hygiene

Eye wash facilities and emergency shower must be available when handling this product. Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Protect from light. Avoid contact with the following materials: Acids. Acid Chlorides Acid anhydrides. Oxidising agents.

Storage class

Flammable liquid storage. Corrosive storage.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

DNEL

Workers - Inhalation; Long term systemic effects: 18.3 mg/m³

Workers - Inhalation; Long term local effects: 10.7 mg/m³

Workers - Dermal; Long term systemic effects: 2.5 mg/kg

PNEC

- Fresh water; 0.062 mg/l

- Marine water; 0.006 mg/l

- Sediment (Freshwater); 0.673 mg/l

Sediment (Marinewater); 0.067 mg/kg

- Soil; 0.098 mg/kg

- STP; 10 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Eye wash facilities and emergency shower must be available when handling this product. Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Chemical splash goggles and face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Nitrile rubber. Protective gloves should have a minimum thickness of 0.4 mm. Butyl rubber. Viton rubber (fluoro rubber). Protective gloves should have a minimum thickness of 0.7 mm. The selected gloves should have a breakthrough time of at least 8 hours. To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Contaminated clothing should be placed in a closed container for disposal or decontamination. Remove contaminated clothing and protective equipment before entering eating areas. Take off immediately all contaminated clothing and wash it before reuse.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Wear self-contained breathing apparatus. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless to pale yellow.
Odour	Amine.
Odour threshold	No information available.
pH	pH (diluted solution): 11.5 @ 100 g/l
Melting point	-68°C
Initial boiling point and range	158.0 - 163.5°C
Flash point	51.5°C
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 0.7 Upper flammable/explosive limit: 10.10
Vapour pressure	1.9 mbar
Vapour density	4
Relative density	0.8835 @ 20°C
Solubility(ies)	Soluble in water.
Partition coefficient	: 0.21 OECD 107
Auto-ignition temperature	270 - 320°C
Decomposition Temperature	No information available.
Viscosity	4.022 mPa s @ 25°C

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Explosive properties Not considered to be explosive. Vapours may form explosive mixtures with air.

Oxidising properties Does not meet the criteria for classification as oxidising.

9.2. Other information

Molecular weight 117.19

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product. Stable under the prescribed storage conditions.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reactions with the following materials may generate heat: Strong oxidising agents. Halogenated hydrocarbons. Acids. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong acids. Acid Chlorides Acid anhydrides. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of the following substances: Carbon. Nitrogen. Nitrous gases (NO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,320.0

Species Rat

ATE oral (mg/kg) 1,320.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 885.0

Species Guinea pig

ATE dermal (mg/kg) 885.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 4.6

Species Rat

ATE inhalation (vapours mg/l) 4.6

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin.

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Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation Toxic if inhaled. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.

Ingestion Harmful if swallowed. Causes burns.

Skin contact Toxic in contact with skin. Causes burns.

Eye contact Causes serious eye damage. May cause chemical eye burns.

SECTION 12: Ecological Information

Ecotoxicity The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 147 mg/l, *Leuciscus idus* (Golden orfe)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 165 mg/l, *Daphnia magna*
OECD 202

Acute toxicity - aquatic plants EC₅₀, 72 hours: 62.3 mg/l, *Scenedesmus subspicatus*

Acute toxicity - microorganisms EC20, >: 1000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

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Partition coefficient : 0.21 OECD 107

12.4. Mobility in soil

Mobility The product is soluble in water. The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Flammable liquid and vapour. Do not puncture or incinerate, even when empty. Materials such as cleaning rags and paper wipes that are contaminated with flammable liquids may self-ignite after use and should be stored in designated fireproof containers with tight-fitting, self-closing lids.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 2686

UN No. (IMDG) 2686

UN No. (ICAO) 2686

UN No. (ADN) 2686

14.2. UN proper shipping name

Proper shipping name (ADR/RID) 2-DIETHYLAMINOETHANOL

Proper shipping name (IMDG) 2-DIETHYLAMINOETHANOL

Proper shipping name (ICAO) 2-DIETHYLAMINOETHANOL

Proper shipping name (ADN) 2-DIETHYLAMINOETHANOL

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID subsidiary risk 3

ADR/RID classification code CF1

ADR/RID label 8

IMDG class 8

IMDG subsidiary risk 3

ICAO class/division 8

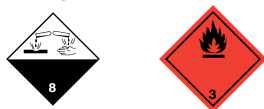
2-DIETHYLAMINOETHANOL

ICAO subsidiary risk 3

ADN class 8

ADN subsidiary risk 3

Transport labels



14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ADN packing group II

ICAO packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-E, S-C

ADR transport category 2

Emergency Action Code •2W

Hazard Identification Number 83
(ADR/RID)

Tunnel restriction code (D/E)

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

Transport in bulk according to No information required.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

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

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

This product may impact SEVESO storage regulations.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

2-DIETHYLAMINOETHANOL

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Japan - MITI

All the ingredients are listed or exempt.
ENCS

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

2-DIETHYLAMINOETHANOL

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

ECHA Disseminated REACH Dossier Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

16/07/2018

Version number

3.000

Supersedes date

11/07/2018

SDS number

510

SDS status

Approved.

Hazard statements in full

H226 Flammable liquid and vapour.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H331 Toxic if inhaled.

2-DIETHYLAMINOETHANOL

Signature

J Spenceley



Exposure scenario

Formulation & (re)packing of substances and mixtures

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Formulation & (re)packing of substances and mixtures
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC2 Formulation of preparations.
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Worker

Process category	PROC3 Use in closed batch process (synthesis or formulation). PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Amounts used

Formulation & (re)packing of substances and mixtures

Annual amount used in the EU: 670000 kg

Frequency and duration of use

Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.01%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10
	Local marine water dilution factor: 100
	Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Exhaust air scrubber. Waste gas treatment by thermal oxidation.
Water	Aerobic biological treatment
Soil	No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Ventilation rate	PROC3 Use in closed batch process (synthesis or formulation). PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Local exhaust ventilation - efficiency of at least [%]: 90 PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Local exhaust ventilation - efficiency of at least [%]: 95

Technical conditions and measures at process level (source) to prevent release

Formulation & (re)packing of substances and mixtures

Technical protective measures Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Marine water: Exposure 0.000236 mg/l, PNEC 0.00623 mg/l, RCR 0.037835

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Formulation & (re)packing of substances and mixtures

Exposure

PROC3 Use in closed batch process (synthesis or formulation).

Worker - dermal, long-term - systemic: Exposure 0.0686 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.027429

Worker - inhalation, long-term - systemic: Exposure 1.4649 mg/m³, DNEL 18 mg/m³, RCR 0.080048

Worker - inhalation, long-term - local: Exposure 1.4649 mg/m³, DNEL 10.7 mg/m³, RCR 0.136904

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.4415 mg/m³, DNEL 18 mg/m³, RCR 0.133413

Worker - inhalation, long-term - local: Exposure 2.4415 mg/m³, DNEL 10.7 mg/m³, RCR 0.228174

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 4.8829 mg/m³, DNEL 18 mg/m³, RCR 0.266826

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 1.2207 mg/m³, DNEL 18 mg/m³, RCR 0.066707

Worker - inhalation, long-term - local: Exposure 1.2207 mg/m³, DNEL 10.7 mg/m³, RCR 0.114087

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

Worker - dermal, long-term - systemic: Exposure 0.6857 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.274286

Worker - inhalation, long-term - systemic: Exposure 2.4415 mg/m³, DNEL 18 mg/m³, RCR 0.133413

Worker - inhalation, long-term - local: Exposure 2.4415 mg/m³, DNEL 10.7 mg/m³, RCR 0.228174

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as an intermediate

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
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Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as an intermediate
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC6a Industrial use resulting in manufacture of another substance (use of intermediates).
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Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Use as an intermediate

Amounts used

Annual amount used in the EU: 360000 kg

Frequency and duration of use

Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.02%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100 Receiving water dilution (fresh or marine): 18000 m³/day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Exhaust air scrubber. Waste gas treatment by thermal oxidation.
Water	Aerobic biological treatment
Soil	No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Ventilation rate	PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Local exhaust ventilation - efficiency of at least [%]: 90 PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Local exhaust ventilation - efficiency of at least [%]: 95

Technical conditions and measures at process level (source) to prevent release

Use as an intermediate

Technical protective measures Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.

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

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Marine water: Exposure 0.000227 mg/l, PNEC 0.00623 mg/l, RCR 0.363632

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Use as an intermediate

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - dermal, long-term - systemic: Exposure 0.0343 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.013714

Worker - inhalation, long-term - systemic: Exposure 0.0488 mg/m³, DNEL 18 mg/m³, RCR 0.002668

Worker - inhalation, long-term - local: Exposure 0.0488 mg/m³, DNEL 10.7 mg/m³, RCR 0.004563

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.54857

Worker - inhalation, long-term - systemic: Exposure 4.8829 mg/m³, DNEL 18 mg/m³, RCR 0.266826

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

PROC3 Use in closed batch process (synthesis or formulation).

Worker - dermal, long-term - systemic: Exposure 0.0686 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.027429

Worker - inhalation, long-term - systemic: Exposure 1.4649 mg/m³, DNEL 18 mg/m³, RCR 0.080048

Worker - inhalation, long-term - local: Exposure 1.4649 mg/m³, DNEL 10.7 mg/m³, RCR 0.136904

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - dermal, long-term - systemic: Exposure 0.6857 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.274286

Worker - inhalation, long-term - systemic: Exposure 2.4415 mg/m³, DNEL 18 mg/m³, RCR 0.133413

Worker - inhalation, long-term - local: Exposure 2.4415 mg/m³, DNEL 10.7 mg/m³, RCR 0.228174

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 4.8829 mg/m³, DNEL 18 mg/m³, RCR 0.266826

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 1.2207 mg/m³, DNEL 18 mg/m³, RCR 0.066707

Worker - inhalation, long-term - local: Exposure 1.2207 mg/m³, DNEL 10.7 mg/m³, RCR 0.114087

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

Worker - dermal, long-term - systemic: Exposure 0.6857 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.274286

Worker - inhalation, long-term - systemic: Exposure 2.4415 mg/m³, DNEL 18 mg/m³, RCR 0.133413

Worker - inhalation, long-term - local: Exposure 2.4415 mg/m³, DNEL 10.7 mg/m³, RCR 0.228174

4. Guidance to check compliance with the exposure scenario (Health 1)

Use as an intermediate

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario Use in laboratories - Industrial

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in laboratories - Industrial
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
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Worker

Process category	PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Amounts used

Annual amount used in the EU: 2000 kg

Frequency and duration of use

Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 2.5%
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Use in laboratories - Industrial

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 2%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type Municipal STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Exhaust air scrubber. Waste gas treatment by thermal oxidation.

Water Aerobic biological treatment

Soil No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment No application of sludge to soil.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 200 Pa @ 20°C

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Ventilation rate Local exhaust ventilation - efficiency of at least [%]: 90

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Use in laboratories - Industrial

Environmental exposure Marine water: Exposure 0.00126 mg/l, PNEC 0.00623 mg/l, RCR 0.202105

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Exposure Worker - dermal, long-term - systemic: Exposure 0.0343 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.013714
Worker - inhalation, long-term - systemic: Exposure 2.4415 mg/m³, DNEL 18 mg/m³, RCR 0.133413
Worker - inhalation, long-term - local: Exposure 2.4415 mg/m³, DNEL 10.7 mg/m³, RCR 0.228174

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use in laboratories - Professional

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in laboratories - Professional
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.
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Worker

Process category	PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Amounts used

Annual amount used in the EU: 2000 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 50%
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Use in laboratories - Professional

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 50%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type Municipal STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water Aerobic biological treatment

Conditions and measures related to external treatment of waste for disposal

Sludge treatment No application of sludge to soil.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 200 Pa @ 20°C

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Ventilation rate Local exhaust ventilation - efficiency of at least [%]: 80

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Marine water: Exposure 0.00000383 mg/l, PNEC 0.00623 mg/l, RCR 0.000615

3. Exposure estimation (Health 1)

Use in laboratories - Professional

Assessment method	Used ECETOC TRA model.
Exposure	Worker - dermal, long-term - systemic: Exposure 0.0686 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.027429 Worker - inhalation, long-term - systemic: Exposure 4.8829 mg/m ³ , DNEL 18 mg/m ³ , RCR 0.266826 Worker - inhalation, long-term - local: Exposure 4.8829 mg/m ³ , DNEL 10.7 mg/m ³ , RCR 0.456347

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use in Metal working fluids / rolling oils - Industrial

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Metal working fluids / rolling oils - Industrial
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<u>Worker</u>	
Process category	PROC17 Lubrication at high energy conditions and in partly open process. PROC18 Greasing at high energy conditions.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C

Amounts used

Annual amount used in the EU: 200000 kg

Frequency and duration of use

Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 2%
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Use in Metal working fluids / rolling oils - Industrial

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.1%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type Municipal STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Exhaust air scrubber. Waste gas treatment by thermal oxidation.

Water Aerobic biological treatment

Soil No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment No application of sludge to soil.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 200 Pa @ 20°C

Concentration details Covers concentrations up to 25 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Local exhaust ventilation - efficiency of at least [%]: 90

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide extract ventilation to points where emissions occur. Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%
Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures.

Use in Metal working fluids / rolling oils - Industrial

3. Exposure estimation (Environment 1)

Assessment method	Used ECETOC TRA model.
Environmental exposure	Marine water: Exposure 0.00315 mg/l, PNEC 0.00623 mg/l, RCR 0.504968

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
Exposure	PROC17 Lubrication at high energy conditions and in partly open process. Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286 Worker - inhalation, long-term - systemic: Exposure 4.1017 mg/m³, DNEL 18 mg/m³, RCR 0.224134 Worker - inhalation, long-term - local: Exposure 4.1017 mg/m³, DNEL 10.7 mg/m³, RCR 0.383332 PROC18 Greasing at high energy conditions. Worker - dermal, long-term - systemic: Exposure 0.8229 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.329143 Worker - inhalation, long-term - systemic: Exposure 4.1017 mg/m³, DNEL 18 mg/m³, RCR 0.224134 Worker - inhalation, long-term - local: Exposure 4.1017 mg/m³, DNEL 10.7 mg/m³, RCR 0.383332

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use in Metal working fluids / rolling oils - Professional

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Metal working fluids / rolling oils - Professional
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<u>Worker</u>	
Process category	PROC17 Lubrication at high energy conditions and in partly open process. PROC18 Greasing at high energy conditions.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C

Amounts used

Annual amount used in the EU: 40000 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 15%
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Use in Metal working fluids / rolling oils - Professional

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 5%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 5%

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type Municipal STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water Aerobic biological treatment

Soil No application of sludge to soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment No application of sludge to soil.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 200 Pa @ 20°C

Concentration details Covers concentrations up to 25 %.

Frequency and duration of use

Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use.

Ventilation rate Ensure operation is undertaken outdoors. , or: Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Local exhaust ventilation - efficiency of at least [%]: 80

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide extract ventilation to points where emissions occur. Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use in Metal working fluids / rolling oils - Professional

Wear suitable gloves (tested to EN374), coverall and eye protection.

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

Efficiency of at least 90%

PROC18 Greasing at high energy conditions.

If ventilation is inadequate, suitable respiratory protection must be worn.

Wear a respirator providing a minimum efficiency of (%): 90

Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures.

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Soil: Exposure 0.0000615 mg/kg, PNEC 0.0977 mg/kg, RCR 0.000629

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Specific conditions Indoor use.

Exposure

PROC17 Lubrication at high energy conditions and in partly open process.
 Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286
 Worker - inhalation, long-term - systemic: Exposure 1.7579 mg/m³, DNEL 18 mg/m³, RCR 0.096057
 Worker - inhalation, long-term - local: Exposure 2.9298 mg/m³, DNEL 10.7 mg/m³, RCR 0.273808
 PROC18 Greasing at high energy conditions.
 Worker - dermal, long-term - systemic: Exposure 0.8229 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.329143
 Worker - inhalation, long-term - systemic: Exposure 1.7579 mg/m³, DNEL 18 mg/m³, RCR 0.096057
 Worker - inhalation, long-term - local: Exposure 2.9298 mg/m³, DNEL 10.7 mg/m³, RCR 0.273808

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>

3. Exposure estimation (Health 2)

Assessment method Used ECETOC TRA model.

Specific conditions Outdoor use.

Use in Metal working fluids / rolling oils - Professional

Exposure

PROC17 Lubrication at high energy conditions and in partly open process.

Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286

Worker - inhalation, long-term - systemic: Exposure 1.0254 mg/m³, DNEL 18 mg/m³, RCR 0.056033

Worker - inhalation, long-term - local: Exposure 10.2541 mg/m³, DNEL 10.7 mg/m³, RCR 0.958329

PROC18 Greasing at high energy conditions.

Worker - dermal, long-term - systemic: Exposure 0.8229 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.329143

Worker - inhalation, long-term - systemic: Exposure 1.0254 mg/m³, DNEL 18 mg/m³, RCR 0.056033

Worker - inhalation, long-term - local: Exposure 10.2541 mg/m³, DNEL 10.7 mg/m³, RCR 0.958329

4. Guidance to check compliance with the exposure scenario (Health 2)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in concrete and cement

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in concrete and cement
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix. ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
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Worker

Process category	PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC19 Hand-mixing with intimate contact and only PPE available. PROC21 Low energy manipulation of substances bound in materials and/or articles PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Amounts used

Use as Additive, Use in concrete and cement

Annual amount used in the EU: 20000 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 3.7%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100 Receiving water dilution (fresh or marine): 18000 m³/day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water	Aerobic biological treatment
Soil	No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid Unless otherwise stated. PROC21 Low energy manipulation of substances bound in materials and/or articles Solid, medium dustiness PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles Solid, low dustiness
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.
PROC10 Roller application or brushing of adhesive and other coating.
PROC19 Hand-mixing with intimate contact and only PPE available.
Covers daily exposure up to 4hours
PROC13 Treatment of articles by dipping and pouring.
Indoor.
Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Use as Additive, Use in concrete and cement

Setting	Indoor/outdoor use.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	PROC10 Roller application or brushing of adhesive and other coating. Limit the substance content in the product to 25%. PROC19 Hand-mixing with intimate contact and only PPE available. Limit the substance content in the product to 1%. PROC21 Low energy manipulation of substances bound in materials and/or articles PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles Indoor. Limit the substance content in the product to 25%.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%
Wear suitable respiratory protection.
Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method	Used ECETOC TRA model.
Environmental exposure	Soil: Exposure 0.0000598 mg/kg, PNEC 0.0977 mg/kg, RCR 0.000612

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
Specific conditions	Indoor use.

Use as Additive, Use in concrete and cement

Exposure

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 5.1271 mg/m³, DNEL 18 mg/m³, RCR 0.280167

Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608

PROC10 Roller application or brushing of adhesive and other coating.

Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286

Worker - inhalation, long-term - systemic: Exposure 3.0762 mg/m³, DNEL 18 mg/m³, RCR 0.1681

Worker - inhalation, long-term - local: Exposure 5.1271 mg/m³, DNEL 10.7 mg/m³, RCR 0.479165

PROC13 Treatment of articles by dipping and pouring.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

PROC19 Hand-mixing with intimate contact and only PPE available.

Worker - dermal, long-term - systemic: Exposure 1.4143 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.565714

Worker - inhalation, long-term - systemic: Exposure 5.1271 mg/m³, DNEL 18 mg/m³, RCR 0.280167

Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608

PROC21 Low energy manipulation of substances bound in materials and/or articles

Worker - dermal, long-term - systemic: Exposure 1.6971 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.678857

Worker - inhalation, long-term - systemic: Exposure 2.1 mg/m³, DNEL 18 mg/m³, RCR 0.114754

Worker - inhalation, long-term - local: Exposure 2.1 mg/m³, DNEL 10.7 mg/m³, RCR 0.196262

PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles

Worker - dermal, long-term - local: Exposure 1.6971 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.678857

Worker - inhalation, long-term - systemic: Exposure 1.26 mg/m³, DNEL 18 mg/m³, RCR 0.068852

Worker - inhalation, long-term - local: Exposure 1.26 mg/m³, DNEL 10.7 mg/m³, RCR 0.117757

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>

Use as Additive, Use in concrete and cement

3. Exposure estimation (Health 2)

Assessment method	Used ECETOC TRA model.
Specific conditions	Outdoor use.
Exposure	PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571 Worker - inhalation, long-term - systemic: Exposure 2.0508 mg/m³, DNEL 18 mg/m³, RCR 0.112067 Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443 PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571 Worker - inhalation, long-term - systemic: Exposure 5.1271 mg/m³, DNEL 18 mg/m³, RCR 0.280167 Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443 PROC10 Roller application or brushing of adhesive and other coating. Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286 Worker - inhalation, long-term - systemic: Exposure 3.0762 mg/m³, DNEL 18 mg/m³, RCR 0.1681 Worker - inhalation, long-term - local: Exposure 5.1271 mg/m³, DNEL 10.7 mg/m³, RCR 0.479165 PROC13 Treatment of articles by dipping and pouring. Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571 Worker - inhalation, long-term - systemic: Exposure 3.418 mg/m³, DNEL 18 mg/m³, RCR 0.186778 Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443 PROC19 Hand-mixing with intimate contact and only PPE available. Worker - dermal, long-term - systemic: Exposure 1.4143 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.565714 Worker - inhalation, long-term - systemic: Exposure 5.1271 mg/m³, DNEL 18 mg/m³, RCR 0.280167 Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608 PROC21 Low energy manipulation of substances bound in materials and/or articles Worker - dermal, long-term - systemic: Exposure 0.5657 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.226286 Worker - inhalation, long-term - systemic: Exposure 3.5 mg/m³, DNEL 18 mg/m³, RCR 0.191257 Worker - inhalation, long-term - local: Exposure 3.5 mg/m³, DNEL 10.7 mg/m³, RCR 0.327103 PROC24 High (mechanical) energy work-up of substances bound in materials and/or articles Worker - dermal, long-term - systemic: Exposure 0.5657 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.226286 Worker - inhalation, long-term - systemic: Exposure 2.1 mg/m³, DNEL 18 mg/m³, RCR 0.114754 Worker - inhalation, long-term - local: Exposure 2.1 mg/m³, DNEL 10.7 mg/m³, RCR 0.196262

Use as Additive, Use in concrete and cement

4. Guidance to check compliance with the exposure scenario (Health 2)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in Wood Articles

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in Wood Articles
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC5 Industrial use resulting in inclusion into or onto a matrix.
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Worker

Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Amounts used

Annual amount used in the EU: 35000 kg

Frequency and duration of use

Emission days: 300 days/year

Use as Additive, Use in Wood Articles

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.7%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100 Receiving water dilution (fresh or marine): 18000 m³/day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Exhaust air scrubber. Waste gas treatment by thermal oxidation.
Water	Aerobic biological treatment
Soil	No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Limit the substance content in the product to 1%.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Use as Additive, Use in Wood Articles

Assessment method	Used ECETOC TRA model.
Environmental exposure	Soil: Exposure 0.000134 mg/kg, PNEC 0.0977 mg/kg, RCR 0.001371

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
Exposure	PROC10 Roller application or brushing of adhesive and other coating. Worker - dermal, long-term - systemic: Exposure 0.2743 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.109714 Worker - inhalation, long-term - systemic: Exposure 4.8829 mg/m³, DNEL 18 mg/m³, RCR 0.266826 Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347 PROC13 Treatment of articles by dipping and pouring. Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571 Worker - inhalation, long-term - systemic: Exposure 4.8829 mg/m³, DNEL 18 mg/m³, RCR 0.266826 Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347 PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation. Worker - dermal, long-term - systemic: Exposure 0.3429 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.137143 Worker - inhalation, long-term - systemic: Exposure 2.4415 mg/m³, DNEL 18 mg/m³, RCR 0.133413 Worker - inhalation, long-term - local: Exposure 2.4415 mg/m³, DNEL 10.7 mg/m³, RCR 0.228174

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in coatings - Industrial

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in coatings - Industrial
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC5 Industrial use resulting in inclusion into or onto a matrix.
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Worker

Process category	PROC7 Spraying in industrial settings and applications. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Amounts used

Annual amount used in the EU: 60000 kg

Use as Additive, Use in coatings - Industrial

Frequency and duration of use

Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 2%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100 Receiving water dilution (fresh or marine): 18000 m³/day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Exhaust air scrubber. Waste gas treatment by thermal oxidation. Wet scrubber for dust elimination of waste gases.
Water	Aerobic biological treatment
Soil	No application of sludge to soil. Sealing of all relevant soil surfaces. Sewage sludge incineration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
PROC7 Spraying in industrial settings and applications.
Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Setting	Indoor.
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Use as Additive, Use in coatings - Industrial

Ventilation rate

PROC7 Spraying in industrial settings and applications. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Local exhaust ventilation - efficiency of at least [%]: 95
 PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. Local exhaust ventilation - efficiency of at least [%]: 90
 PROC7 Spraying in industrial settings and applications. Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Limit the substance content in the product to 25%.
 Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
 Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.
Environmental exposure Soil: Exposure 0.0000590 mg/kg, PNEC 0.0977 mg/kg, RCR 0.000604

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Use as Additive, Use in coatings - Industrial

Exposure

PROC7 Spraying in industrial settings and applications.

Worker - dermal, long-term - systemic: Exposure 1.2857 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.514286

Worker - inhalation, long-term - systemic: Exposure 5.7 mg/m³, DNEL 18 mg/m³, RCR 0.311475

Worker - inhalation, long-term - local: Exposure 5.7 mg/m³, DNEL 10.7 mg/m³, RCR 0.53271
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 0.8229 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.329143

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 2.9298 mg/m³, DNEL 10.7 mg/m³, RCR 0.273808

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 0.8229 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.329143

Worker - inhalation, long-term - systemic: Exposure 0.7324 mg/m³, DNEL 18 mg/m³, RCR 0.040024

Worker - inhalation, long-term - local: Exposure 0.7324 mg/m³, DNEL 10.7 mg/m³, RCR 0.068452

PROC10 Roller application or brushing of adhesive and other coating.

Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 2.9298 mg/m³, DNEL 10.7 mg/m³, RCR 0.273808

PROC13 Treatment of articles by dipping and pouring.

Worker - dermal, long-term - systemic: Exposure 0.8229 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.329143

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 2.9298 mg/m³, DNEL 10.7 mg/m³, RCR 0.273808

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in coatings - Professional

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in coatings - Professional
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix. ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
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Worker

Process category	PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C

Amounts used

Annual amount used in the EU: 65000 kg

Frequency and duration of use

Use as Additive, Use in coatings - Professional

Emission days: 225 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.5%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100 Receiving water dilution (fresh or marine): 18000 m³/day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water	Aerobic biological treatment
Soil	No application of sludge to soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Frequency and duration of use

Covers daily exposure up to 4hours
Unless otherwise stated.
PROC11 Spraying outside industrial settings and/or applications.
Covers daily exposure up to 60minutes
PROC10 Roller application or brushing of adhesive and other coating.
Outdoor.
Covers daily exposure up to 8hours

Other given operational conditions affecting workers exposure

Setting	Indoor/outdoor use.
Ventilation rate	Ensure operation is undertaken outdoors. , or: Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	PROC10 Roller application or brushing of adhesive and other coating. Limit the substance content in the product to 25%. PROC11 Spraying outside industrial settings and/or applications. Limit the substance content in the product to 1%.
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Organisational measures to prevent/limit releases, dispersion and exposure

Use as Additive, Use in coatings - Professional

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
Wear suitable respiratory protection.
Efficiency of at least 90%
PROC11 Spraying outside industrial settings and/or applications.
Wear a respirator providing a minimum efficiency of (%): 95

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Soil: Exposure 0.0000717 mg/kg, PNEC 0.0977 mg/kg, RCR 0.000734

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Specific conditions Indoor use.

Use as Additive, Use in coatings - Professional

Exposure

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 5.1271 mg/m³, DNEL 18 mg/m³, RCR 0.280167

Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

PROC10 Roller application or brushing of adhesive and other coating.

Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286

Worker - inhalation, long-term - systemic: Exposure 3.0762 mg/m³, DNEL 18 mg/m³, RCR 0.1681

Worker - inhalation, long-term - local: Exposure 5.1271 mg/m³, DNEL 10.7 mg/m³, RCR 0.479165

PROC11 Spraying outside industrial settings and/or applications.

Worker - dermal, long-term - systemic: Exposure 2.1429 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.857143

Worker - inhalation, long-term - systemic: Exposure 1.6 mg/m³, DNEL 18 mg/m³, RCR 0.087432

Worker - inhalation, long-term - local: Exposure 1.6 mg/m³, DNEL 10.7 mg/m³, RCR 0.149533

PROC13 Treatment of articles by dipping and pouring.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 4.8829 mg/m³, DNEL 10.7 mg/m³, RCR 0.456347

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>

3. Exposure estimation (Health 2)

Assessment method Used ECETOC TRA model.

Specific conditions Outdoor use.

Use as Additive, Use in coatings - Professional

Exposure

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 5.1271 mg/m³, DNEL 18 mg/m³, RCR 0.280167

Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.0508 mg/m³, DNEL 18 mg/m³, RCR 0.112067

Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443

PROC10 Roller application or brushing of adhesive and other coating.

Worker - dermal, long-term - systemic: Exposure 1.6457 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.658286

Worker - inhalation, long-term - systemic: Exposure 2.5635 mg/m³, DNEL 18 mg/m³, RCR 0.140084

Worker - inhalation, long-term - local: Exposure 2.5635 mg/m³, DNEL 10.7 mg/m³, RCR 0.239582

PROC11 Spraying outside industrial settings and/or applications.

Worker - dermal, long-term - systemic: Exposure 2.1429 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.857143

Worker - inhalation, long-term - systemic: Exposure 0.83 mg/m³, DNEL 18 mg/m³, RCR 0.045355

Worker - inhalation, long-term - local: Exposure 0.83 mg/m³, DNEL 10.7 mg/m³, RCR 0.07757

PROC13 Treatment of articles by dipping and pouring.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 2.0508 mg/m³, DNEL 18 mg/m³, RCR 0.112067

Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443

4. Guidance to check compliance with the exposure scenario (Health 2)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in/as Surface care and Polishes - Professional

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in/as Surface care and Polishes - Professional
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
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Worker

Process category	PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C

Amounts used

Annual amount used in the EU: 10000 kg

Frequency and duration of use

Use as Additive, Use in/as Surface care and Polishes - Professional

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 99%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1%

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100 Receiving water dilution (fresh or marine): 18000 m³/day
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Risk management measures

STP type	Municipal STP.
STP details	Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water	Aerobic biological treatment
Soil	No application of sludge to soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	No application of sludge to soil.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C
Concentration details	Unless otherwise stated. Concentration of substance in product: 1%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).
PROC11 Spraying outside industrial settings and/or applications.
Covers daily exposure up to 4hours

Other given operational conditions affecting workers exposure

Setting	Indoor/outdoor use.
Ventilation rate	Ensure operation is undertaken outdoors. , or: Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
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Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.
PROC11 Spraying outside industrial settings and/or applications.
Indoor.
Wear suitable respiratory protection.
Efficiency of at least 90%

Use as Additive, Use in/as Surface care and Polishes - Professional

3. Exposure estimation (Environment 1)

Assessment method	Used ECETOC TRA model.
Environmental exposure	Soil: Exposure 0.000113 mg/kg, PNEC 0.0977 mg/kg, RCR 0.001158

3. Exposure estimation (Health 1)

Assessment method	Used ECETOC TRA model.
Specific conditions	Indoor use.
Exposure	PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. Worker - dermal, long-term - systemic: Exposure 0.2743 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.109714 Worker - inhalation, long-term - systemic: Exposure 8.5451 mg/m³, DNEL 18 mg/m³, RCR 0.466946 Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608 PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571 Worker - inhalation, long-term - systemic: Exposure 3.418 mg/m³, DNEL 18 mg/m³, RCR 0.186778 Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443 PROC10 Roller application or brushing of adhesive and other coating. Worker - dermal, long-term - systemic: Exposure 0.5486 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.219429 Worker - inhalation, long-term - systemic: Exposure 8.5451 mg/m³, DNEL 18 mg/m³, RCR 0.466946 Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608 PROC11 Spraying outside industrial settings and/or applications. Worker - dermal, long-term - systemic: Exposure 1.0714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.428571 Worker - inhalation, long-term - systemic: Exposure 6.6 mg/m³, DNEL 18 mg/m³, RCR 0.360656 Worker - inhalation, long-term - local: Exposure 6.6 mg/m³, DNEL 10.7 mg/m³, RCR 0.616822 PROC13 Treatment of articles by dipping and pouring. Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571 Worker - inhalation, long-term - systemic: Exposure 3.418 mg/m³, DNEL 18 mg/m³, RCR 0.186778 Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>

3. Exposure estimation (Health 2)

Assessment method	Used ECETOC TRA model.
Specific conditions	Outdoor use.

Use as Additive, Use in/as Surface care and Polishes - Professional

Exposure

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 0.2743 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.109714

Worker - inhalation, long-term - systemic: Exposure 8.5451 mg/m³, DNEL 18 mg/m³, RCR 0.466946

Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 3.418 mg/m³, DNEL 18 mg/m³, RCR 0.186778

Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443

PROC10 Roller application or brushing of adhesive and other coating.

Worker - dermal, long-term - systemic: Exposure 0.5486 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.219429

Worker - inhalation, long-term - systemic: Exposure 8.5451 mg/m³, DNEL 18 mg/m³, RCR 0.466946

Worker - inhalation, long-term - local: Exposure 8.5451 mg/m³, DNEL 10.7 mg/m³, RCR 0.798608

PROC11 Spraying outside industrial settings and/or applications.

Worker - dermal, long-term - systemic: Exposure 1.0714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.428571

Worker - inhalation, long-term - systemic: Exposure 6.6 mg/m³, DNEL 18 mg/m³, RCR 0.360656

Worker - inhalation, long-term - local: Exposure 6.6 mg/m³, DNEL 10.7 mg/m³, RCR 0.616822

PROC13 Treatment of articles by dipping and pouring.

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.548571

Worker - inhalation, long-term - systemic: Exposure 3.418 mg/m³, DNEL 18 mg/m³, RCR 0.319443

Worker - inhalation, long-term - local: Exposure 3.418 mg/m³, DNEL 10.7 mg/m³, RCR 0.319443

4. Guidance to check compliance with the exposure scenario (Health 2)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in Functional Fluids - Industrial

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in Functional Fluids - Industrial
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC7 Industrial use of substances in closed systems.
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Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C

Amounts used

Annual amount used in the EU: 350000 kg

Frequency and duration of use

Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.5%
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Use as Additive, Use in Functional Fluids - Industrial

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.1%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.1%

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type Municipal STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Adsorption Waste gas treatment by thermal oxidation. Wet scrubber for elimination of volatile components from waste gases.

Water Aerobic biological treatment

Soil No application of sludge to soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment No application of sludge to soil.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 200 Pa @ 20°C

Concentration details Covers concentrations up to 25 %. Unless otherwise stated.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Marine water: Exposure 0.000316 mg/l, PNEC 0.00623 mg/l, RCR 0.050673

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Specific conditions Indoor use.

Use as Additive, Use in Functional Fluids - Industrial

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - dermal, long-term - systemic: Exposure 0.0206 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.008229

Worker - inhalation, long-term - systemic: Exposure 0.0293 mg/m³, DNEL 18 mg/m³, RCR 0.001601

Worker - inhalation, long-term - local: Exposure 0.0293 mg/m³, DNEL 10.7 mg/m³, RCR 0.002738

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - dermal, long-term - systemic: Exposure 0.0823 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.032914

Worker - inhalation, long-term - systemic: Exposure 2.9298 mg/m³, DNEL 18 mg/m³, RCR 0.160096

Worker - inhalation, long-term - local: Exposure 2.9298 mg/m³, DNEL 10.7 mg/m³, RCR 0.273808

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>



Exposure scenario

Use as Additive, Use in Functional Fluids - Professional

Identification

Product name	2-DIETHYLAMINOETHANOL
REACH registration number	01-2119488937-14-XXXX
CAS number	100-37-8
EC number	202-845-2
EU index number	603-048-00-6
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use as Additive, Use in Functional Fluids - Professional
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC9b Wide dispersive outdoor use of substances in closed systems. ERC9a Wide dispersive indoor use of substances in closed systems.
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Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Vapour pressure	200 Pa @ 20°C

Amounts used

Annual amount used in the EU: 30000 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 5%
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Use as Additive, Use in Functional Fluids - Professional

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 2.5%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 2.5%

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100
Receiving water dilution (fresh or marine): 18000 m³/day

Risk management measures

STP type Municipal STP.

STP details Assumed onsite sewage treatment plant flow: 2000 m³/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water Aerobic biological treatment

Soil No application of sludge to soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment No application of sludge to soil.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Vapour pressure 200 Pa @ 20°C

Concentration details Covers concentrations up to 25 %. Unless otherwise stated.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or:
Ensure operation is undertaken outdoors.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Wear suitable gloves (tested to EN374), coverall and eye protection.

3. Exposure estimation (Environment 1)

Assessment method Used ECETOC TRA model.

Environmental exposure Soil: Exposure 0.0000597 mg/l, PNEC 0.0977 mg/l, RCR 0.000611

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Specific conditions Outdoor use.

Use as Additive, Use in Functional Fluids - Professional

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - dermal, long-term - systemic: Exposure 0.0206 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.008229

Worker - inhalation, long-term - systemic: Exposure 0.0205 mg/m³, DNEL 18 mg/m³, RCR 0.001121

Worker - inhalation, long-term - local: Exposure 0.0205 mg/m³, DNEL 10.7 mg/m³, RCR 0.001917

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - dermal, long-term - systemic: Exposure 0.0823 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.032914

Worker - inhalation, long-term - systemic: Exposure 10.2541 mg/m³, DNEL 18 mg/m³, RCR 0.560335

Worker - inhalation, long-term - local: Exposure 10.2541 mg/m³, DNEL 10.7 mg/m³, RCR 0.958329

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.ecetoc.org/tra>

3. Exposure estimation (Health 2)

Assessment method

Used ECETOC TRA model.

Specific conditions

Indoor use.

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - dermal, long-term - systemic: Exposure 0.0206 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.008229

Worker - inhalation, long-term - systemic: Exposure 0.0293 mg/m³, DNEL 18 mg/m³, RCR 0.001601

Worker - inhalation, long-term - local: Exposure 0.0293 mg/m³, DNEL 10.7 mg/m³, RCR 0.002738

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - dermal, long-term - systemic: Exposure 0.0823 mg/kg/day, DNEL 2.5 mg/kg/day, RCR 0.032914

Worker - inhalation, long-term - systemic: Exposure 10.2541 mg/m³, DNEL 18 mg/m³, RCR 0.560335

Worker - inhalation, long-term - local: Exposure 10.2541 mg/m³, DNEL 10.7 mg/m³, RCR 0.958329

4. Guidance to check compliance with the exposure scenario (Health 2)

For scaling see <http://www.ecetoc.org/tra>