We create chemistry

Safety data sheet

BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.
Date / Revised: 02.04.2024 Version: 2.0
Date / Previous version: 16.01.2020 Previous version: 1.0
Product: **PENTANOL MIXTURE**
(ID no. 30036714/SDS_GEN_PL/EN)
Date of print 22.10.2025

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

1.1. Product identifier

PENTANOL MIXTURE

Chemical name: pentanol, branched and linear

REACH registration number: 01-2119492626-27-0000

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

Relevant identified uses: Chemical

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY

Contact address:
BASF Polska Sp. z o.o.
Al. Jerozolimskie 142b
02-305 Warszawa
POLAND

Telephone: +48 22 5709-999 (8:00 - 17:00)
E-mail address: product-safety-poland@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3	H226 Flammable liquid and vapour.
Acute Tox. 4 (Inhalation - mist)	H332 Harmful if inhaled.
Skin Corr./Irrit. 2	H315 Causes skin irritation.
Eye Dam./Irrit. 1	H318 Causes serious eye damage.
STOT SE 3	H335 May cause respiratory irritation.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:

Danger

Hazard Statement:

H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection or face protection.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statements (Storage):

P233	Keep container tightly closed.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Labeling of special preparations (GHS):

EUH066: Repeated exposure may cause skin dryness or cracking.

Hazard determining component(s) for labelling: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.
See section 12 - Results of PBT and vPvB assessment.
Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.
The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol
Content (W/W): >= 99 %

Flam. Liq. 3
Acute Tox. 4 (Inhalation - mist)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
STOT SE 3 (irr. to respiratory syst.)
H226, H318, H315, H332, H335
EUH066

Regulatory relevant ingredients

1-pentanol

Content (W/W): >= 60 % - <= 73 %	Flam. Liq. 3
CAS Number: 71-41-0	Acute Tox. 4 (Inhalation - vapour)
EC-Number: 200-752-1	Skin Irrit. 2
INDEX-Number: 603-200-00-1	Eye Dam. 1
	STOT SE 3 (irr. to respiratory syst.)
	Aquatic Chronic 2
	H226, H318, H315, H332, H335, H411

2-Methylbutan-1-ol

Content (W/W): >= 25 % - <= 34 %	Flam. Liq. 3
CAS Number: 137-32-6	Acute Tox. 4 (Inhalation - vapour)
EC-Number: 205-289-9	Skin Corr./Irrit. 2
INDEX-Number: 603-006-00-7	Eye Dam./Irrit. 1
	STOT SE 3 (irr. to respiratory syst.)
	H226, H318, H315, H332, H335
	EUH066

3-Methylbutan-1-ol

Content (W/W): >= 0 % - <= 5 %	Flam. Liq. 3
CAS Number: 123-51-3	Acute Tox. 4 (Inhalation - vapour)
EC-Number: 204-633-5	Skin Irrit. 2
	Eye Dam. 1
Substance with EU occupational exposure limit	STOT SE 3 (irr. to respiratory syst.)
	Aquatic Chronic 2
	H226, H318, H315, H332, H335, H411
	EUH066

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
dry powder, water spray, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Use extinguishing measures to suit surroundings.

5.2. Special hazards arising from the substance or mixture

Advice: Flammable liquid Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:
Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

6.1. Personal precautions, protective equipment and emergency procedures

Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
Avoid all sources of ignition: heat, sparks, open flame. Ground all transfer equipment properly to prevent electrostatic discharge.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

71-41-0: 1-pentanol
NDSCh value 150 mg/m3 (MAC (PL))
TWA value 75 mg/m3 (MAC (PL))
123-51-3: 3-Methylbutan-1-ol
STEL value 37 mg/m3 ; 10 ppm (OEL (EU))
indicative
TWA value 18 mg/m3 ; 5 ppm (OEL (EU))
indicative
TWA value 18 mg/m3 (MAC (PL))
TWA value 200 mg/m3 (MAC (PL))
19 May 2021
NDSCh value 37 mg/m3 (MAC (PL))
NDSCh value 400 mg/m3 (MAC (PL))
19 May 2021
137-32-6: 2-Methylbutan-1-ol
NDSCh value 150 mg/m3 (MAC (PL))
TWA value 75 mg/m3 (MAC (PL))

PNEC

freshwater: 0,12 mg/l

marine water: 0,012 mg/l

intermittent release: 1,2 mg/l

sediment (freshwater): 0,496 mg/kg

sediment (marine water): 0,0496 mg/kg

soil: 1,068 mg/kg

STP: 37 mg/l

DNEL

worker:
Long-term exposure - local effects, Inhalation: 73,16 mg/m3

worker:
Short-term exposure - local effects, Inhalation: 292 mg/m3

consumer:
Long-term exposure - local effects, Inhalation: 13 mg/m3

consumer:
Short-term exposure - local effects, Inhalation: 218 mg/m3

consumer:
Long-term exposure- systemic effects, oral: 12,5 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:
Chemical resistant protective gloves (EN ISO 374-1)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):
nitrile rubber (NBR) - 0.4 mm coating thickness
Manufacturer's directions for use should be observed because of great diversity of types.
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Avoid inhalation of vapour. Avoid contact with the skin, eyes and clothing. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

Environmental exposure controls

All appropriate measures must be taken to prevent the release of this product to the environment and to limit the dispersion of any release when it occurs. Suitable risk management measures should be in place.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid
Form:	liquid
Colour:	colourless
Odour:	sweetish

Odour threshold:		
	not determined	
glass transition temperature:	approx. -138 °C	(measured)
Boiling point:	134,3 °C (1.013,25 hPa)	(measured)
Flammability:	Flammable.	(derived from flash point)
Lower explosion limit:	1,4 %(V) (45,1 °C) The lower explosion point of the substance/mixture has been determined. The explosion point describes the temperature of a flammable liquid at which the concentration of the saturated vapour mixed with air equals the lower explosion limit.	(air)
Upper explosion limit:		
	For liquids not relevant for classification and labelling.	
Flash point:	46 °C	(ISO 13736, closed cup)
Auto-ignition temperature:	300 °C	(DIN 51794)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	
pH value:	7,3 (25 °C)	(internal method)
Viscosity, kinematic:	5,38 mm2/s (20 °C)	(measured)
Viscosity, dynamic:	4,39 mPa.s (20 °C)	
Thixotropy:	not thixotropic	
Solubility in water:		(other)
	22,6 g/l (25 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	1,29 - 1,51 By analogy with a product of similar composition	(other)
Information on: 1-pentanol		
Partitioning coefficient n-octanol/water (log Kow):	*1,51* *(25 °C)* *Literature data.*	*(measured)*
Information on: 2-Methylbutan-1-ol		
Partitioning coefficient n-octanol/water (log Kow):	*1,29* *Literature data.*	*(measured)*
Information on: 3-Methylbutan-1-ol		
Partitioning coefficient n-octanol/water (log Kow):	*1,35* *(23 °C; pH value: approx. 6,5)*	*(measured)*

Vapour pressure:	4,14 hPa (20 °C) static	(OECD Guideline 104)
Relative density:	0,8155 (20 °C)	
Density:	0,8155 g/cm3 (20 °C)	(other)
Relative vapour density (air):	> 1 (20 °C) Heavier than air.	(estimated)

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

Impact sensitivity:

Based on the chemical structure there is no shock-sensitivity.

Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing. (other)

Flammable liquids

Sustained combustibility:

not determined

Pyrophoric properties

Self-ignition temperature: Test type: Spontaneous self-ignition at room-temperature.

not self-igniting

Self-heating substances and mixtures

Self heating ability: not applicable, the product is a liquid

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:

Forms no flammable gases in the presence of water.

Corrosion to metals

Corrosive effects to metal are not anticipated.

Other safety characteristics

pKA:

not applicable, The substance does not dissociate.

Adsorption/water - soil:	KOC: <= 6,33; log KOC: <= 0,8	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Molar mass:	88,15 g/mol	
SAPT-Temperature:	Study scientifically not justified.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

SECTION 10: Stability and Reactivity

10.1. Reactivity

When heated can give off ignitable vapours.

Corrosion to metals:	Corrosive effects to metal are not anticipated.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to avoid

No special precautions other than good housekeeping of chemicals.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:

Of low toxicity after short-term skin contact. Of low toxicity after single ingestion. Virtually nontoxic by inhalation. The European Union (EU) has classified this substance as 'harmful' after inhalation.

Experimental/calculated data:

LD50 rat (oral): 2.690 mg/kg (other)
LC50 rat (by inhalation): > 14 mg/l 6 h (other)
The European Union (EU) has classified this substance as 'harmful'. An aerosol was tested.
LD50 rabbit (dermal): 3.662 mg/kg (other)

Irritation

Assessment of irritating effects:

May cause severe damage to the eyes. Skin contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation

rabbit: Irritant. (FHSA Guideline)
The product has not been tested. The statement has been derived from the properties of the individual components.

Skin corrosion/irritation

rabbit: Irritant. (BASF-Test)
The product has not been tested. The statement has been derived from the properties of the individual components.

Serious eye damage/irritation

rabbit: irreversible damage (BASF-Test)
The product has not been tested. The statement has been derived from the properties of the individual components.

Respiratory/Skin sensitization

Assessment of sensitization:

The substance did not cause skin sensitization in humans.

Experimental/calculated data:

Human Maximization Test human: Non-sensitizing. (Human patch test)
The product has not been tested. The statement has been derived from the properties of the individual components.

Germ cell mutagenicity

Assessment of mutagenicity:

No mutagenic effect was found in various tests with bacteria and mammalian cell culture.

Carcinogenicity

Assessment of carcinogenicity:

Study scientifically not justified.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from the properties of the individual components.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

No adverse effects were observed after repeated oral exposure in animal studies. The product has not been tested. The statement has been derived from the properties of the individual components.

Aspiration hazard

not applicable

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:
LC50 (96 h) 530 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 84/449/EWG, C.1, static)
Nominal concentration. The product has not been tested. The statement has been derived from the properties of the individual components.

LC50 (96 h) 700 mg/l, Salmo gairdneri, syn. O. mykiss (OECD 203; ISO 7346; 84/449/EWG, C.1, static)
Nominal concentration. The product has not been tested. The statement has been derived from the properties of the individual components.

LC50 (96 h) > 120 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 92/69/EWG, C.1, semistatic)
Limit concentration test only (LIMIT test). No effects at the highest test concentration. Nominal concentration. The product has not been tested. The statement has been derived from the properties of the individual components.

Aquatic invertebrates:
EC50 (48 h) > 120 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
Nominal values (confirmed by concentration control analytics) Limit concentration test only (LIMIT test).

Aquatic plants:
EC50 (72 h) > 320 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)
Nominal values (confirmed by concentration control analytics) No effects at the highest test concentration.

Microorganisms/Effect on activated sludge:
EC10 (180 min) 370 mg/l, activated sludge, domestic (OECD Guideline 209, aerobic)
The details of the toxic effect relate to the nominal concentration.

Chronic toxicity to fish:
No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates:
No data available regarding toxicity to daphnids.

Assessment of terrestrial toxicity:
Toxic effects have been observed in studies with soil living organisms.

Soil living organisms:
No observed effect concentration (56 d) 106,75 mg/kg, Eisenia foetida (OECD Guideline 222, artificial soil)
The product has not been tested. The statement has been derived from the properties of the individual components.

Terrestrial plants:
No data available.

Other terrestrial non-mammals:
No data available.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Elimination information:
100 % TIC of the ThIC (18 d) (OECD Guideline 310) (aerobic, activated sludge, domestic)

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):
No data available.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential:
No data available.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Other ecotoxicological advice:
Do not discharge product into the environment without control.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Regulation of the Minister of the Climate of 2 January 2020 on waste catalogue (Dz.U.[Journal of Laws] of 2020, item 10 as amended). (Poland)
Act of 14 December 2012 on waste (consolidated text Dz.U.[Journal of Laws] of 2022, item 699 as amended) and Act of 13 June 2013 on the Management of Packaging and Packaging Waste (consolidated text Dz.U.[Journal of Laws] of 2023, item 160 as amended). (Poland)

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number:	UN1105
UN proper shipping name:	PENTANOLS MIXTURE
Transport hazard class(es):	3
Packing group:	III
Environmental hazards:	no
Special precautions for user:	Tunnel code: D/E

RID

UN number or ID number:	UN1105
UN proper shipping name:	PENTANOLS MIXTURE
Transport hazard class(es):	3
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

Inland waterway transport

ADN

UN number or ID number:	UN1105
UN proper shipping name:	PENTANOLS MIXTURE
Transport hazard class(es):	3
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number:	UN 1105
UN proper shipping name:	PENTANOLS MIXTURE
Transport hazard class(es):	3
Packing group:	III
Environmental hazards:	no Marine pollutant: NO
Special precautions for user:	EmS: F-E; S-D

Air transport

IATA/ICAO

UN number or ID number:	UN 1105
UN proper shipping name:	PENTANOLS MIXTURE
Transport hazard class(es):	3

Packing group:	III
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Regulation:	IBC-Code
Product name:	Amyl alcohol, primary
Pollution category:	Z
Ship Type:	3

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3, 40

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
List entry in regulation: P5a
Classification applies for standard conditions of temperature and pressure.
List entry in regulation: P5b
Classification applies for standard conditions of temperature and pressure.
List entry in regulation: P5c
Classification applies for standard conditions of temperature and pressure.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

Act of 25 February 2011 on chemical substances and mixtures thereof (Dz.U.[Journal of Laws] of 2022, item 1816 as amended). (Poland)
Regulation of the 26 September 1997 by the Minister of Labour and Social Policy on general occupational health and safety rules (consolidated text Dz.U.[Journal of Laws] of 2003, no. 169, item 1650 as amended). (Poland)
Regulation of the Minister of Labour and Social Policy of 12 June 2018 on maximum concentrations and intensities of health-harming agents in the working environment (Dz.U.[Journal of Laws] of 2018 item 1286 as amended). (Poland)
Act of 19 June 1997 prohibiting the use of asbestos-containing products (consolidated text Dz.U.[Journal of Laws] of 2020, item 1680 as amended). (Poland)
Montreal Protocol from September, 16th, 1987 on substances that deplete the ozone layer (Dz.U.[Journal of Laws] of 1992, no. 98, item 490 as amended) and law from May, 15th, 2015 regarding substances that deplete the ozone layer and some fluorinated greenhouse gases (consolidated text Dz.U.[Journal of Laws] of 2020, item 2065 as amended). (Poland).
Regulation of the Minister for Development of 29 January 2016 on the types and quantities of dangerous substances in an establishment determining whether an establishment is to be classified as an establishment with a higher or high risk of a major industrial accident (Dz.U. [Journal of Laws] of 2016, item 138 as amended). (Poland)

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Flam. Liq. 3
STOT SE 3 (irritating to respiratory system)
Acute Tox. 4 (Inhalation - mist)
Acute Tox. 5 (oral)
Acute Tox. 5 (dermal)
Eye Dam./Irrit. 1
Skin Corr./Irrit. 2

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Flam. Liq.	Flammable liquids
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
Skin Irrit.	Skin irritation
Eye Dam.	Serious eye damage
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Annex: Exposure Scenarios

Index

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1. Short title of exposure scenario

Use in Agrochemicals, (consumer use)

ERC8a, ERC8d; PC12, PC27

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC12: Fertilizers.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	365 uses per year
body weight	65 kg
Uptake fraction oral	100 %
	Amount ingested 0,3 g Relevant for oral exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic
Exposure estimate	0,4615 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,036923
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC27: Plant Protection products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	365 uses per year
body weight	65 kg
Uptake fraction oral	100 %
	Amount ingested 0,3 g Relevant for oral exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic
Exposure estimate	0,4615 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,036923
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

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2. Short title of exposure scenario

Use in Coatings, (consumer use)
ERC8a, ERC8d; PC1, PC4, PC9a, PC9c, PC15, PC18, PC23, PC24, PC31

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid

	(no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, wood parquet glue)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 0,5 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 75 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 75 min Relevant for inhalative exposure estimates
Room size	58 m3
Ventilation rate per hour	2,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	40000 cm²
	Release area is constant
Release duration	75 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	210,9903 mg/m³
Risk Characterization Ratio (RCR)	0,967845
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC1_4: Subcategory: Sealant
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 5 %

Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 45 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 30 min Relevant for inhalative exposure estimates
Room size	10 m3
Ventilation rate per hour	2
Temperature (Application)	20 °C
body weight	65 kg
Release area	250 cm²
	Release area increases over time
Release duration	30 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	153,9865 mg/m³
Risk Characterization Ratio (RCR)	0,70636
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC1_2: Subcategory: Glues DIY-use (carpet glue, tile glue, wood parquet glue)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 0,5 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 55 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 55 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	< 1 uses per year
Room size	58 m3
Ventilation rate per hour	0,5
Temperature (Application)	20 °C
body weight	65 kg

Release area	220000 cm²
	Release area increases over time
Release duration	55 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	11,7464 mg/m³
Risk Characterization Ratio (RCR)	0,903573
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC1_1: Subcategory: Glues, hobby use
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 10 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per week
Room size	20 m3
Ventilation rate per hour	0,6
Temperature (Application)	20 °C
body weight	65 kg
Release area	200 cm²
	Release area increases over time
Release duration	10 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	2,8221 mg/m³
Risk Characterization Ratio (RCR)	0,217084
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	

For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

Contributing exposure scenario	
Use descriptors covered	PC1_3: Subcategory: Glue from spray
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per month
Room size	20 m3
Ventilation rate per hour	0,6
body weight	65 kg
Spray duration	170 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,0174 mg/m³
Risk Characterization Ratio (RCR)	0,001335
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 1,2 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 20 min Relevant for inhalative exposure estimates
Room size	34 m3

Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	60000 cm²
	Release area is constant
Release duration	20 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	0,1409 mg/m³
Risk Characterization Ratio (RCR)	0,000647
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 3 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 10,2 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 5 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	100 cm²
	Release area is constant
Release duration	5 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	81,3051 mg/m³
Risk Characterization Ratio (RCR)	0,372959
	The exposure calculation is based on a single use of the

	product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 15 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
Spray duration	900 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, short-term - systemic
Exposure estimate	5,1461 mg/m³
Risk Characterization Ratio (RCR)	0,023606
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC9a_3, PC15_3: Subcategory: Aerosol spray can
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 20 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg

Spray duration	900 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, short-term - systemic
Exposure estimate	37,6195 mg/m³
Risk Characterization Ratio (RCR)	0,172566
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC9a_4, PC15_4: Subcategory: Removers (paint-, glue-, wall paper-, sealant-remover)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 60 min Relevant for inhalative exposure estimates
Room size	20 m3
Ventilation rate per hour	0,6
Temperature (Application)	20 °C
body weight	65 kg
Release area	20000 cm²
	Release area increases over time
Release duration	60 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	205,3967 mg/m³
Risk Characterization Ratio (RCR)	0,942187
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC9a_1, PC15_1: Subcategory: Waterborne latex wall paint
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 55 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	2 uses per year
Room size	20 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	150000 cm²
	Release area increases over time
Release duration	55 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	9,8759 mg/m³
Risk Characterization Ratio (RCR)	0,759687
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC9c: Finger paints
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 9 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	365 uses per year

body weight	16,3 kg
Uptake fraction oral	100 %
	Amount ingested 1,35 g Relevant for oral exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic
Exposure estimate	7,454 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,596319
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC15: Non-metal-surface treatment products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 20 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
Spray duration	900 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, short-term - systemic
Exposure estimate	37,6195 mg/m³
Risk Characterization Ratio (RCR)	0,172566
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC15: Non-metal-surface treatment products.

Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 55 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 55 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	2 uses per year
Room size	20 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	150000 cm²
	Release area increases over time
Release duration	55 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	8,6212 mg/m³
Risk Characterization Ratio (RCR)	0,663172
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC15: Non-metal-surface treatment products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 1 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per year

Room size	20 m3
Ventilation rate per hour	0,6
Temperature (Application)	20 °C
body weight	65 kg
Release area	20000 cm²
	Release area increases over time
Release duration	60 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,0043 mg/m³
Risk Characterization Ratio (RCR)	0,000331
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC18: Ink and Toners.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	365 uses per year
body weight	70 kg
Release duration	132 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - constant rate
	Consumer - inhalation, long-term - systemic
Exposure estimate	6,1771 mg/m³
Risk Characterization Ratio (RCR)	0,475164
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC23: Leather tanning, dye, finishing, impregnation and care products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Room size	58 m3
Ventilation rate per hour	0,5
body weight	65 kg
Spray duration	180 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, short-term - systemic
Exposure estimate	0,5022 mg/m³
Risk Characterization Ratio (RCR)	0,002303
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC13_1, PC24_1: Subcategory: Liquids
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per year
body weight	65 kg
Release duration	60 min

	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - constant rate
	Consumer - inhalation, long-term - systemic
Exposure estimate	8,6096 mg/m³
Risk Characterization Ratio (RCR)	0,662278
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC24_2: Subcategory: Pastes
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
body weight	65 kg
	Amount per use 30 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: evaporation model - instantaneous release
	Consumer - inhalation, long-term - systemic
Exposure estimate	4,7003 mg/m³
Risk Characterization Ratio (RCR)	0,361559
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC23_2, PC31_2: Subcategory: Polishes, spray (furniture, shoes)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and

	pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Room size	58 m3
Ventilation rate per hour	0,5
body weight	65 kg
Spray duration	180 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, short-term - systemic
Exposure estimate	0,5022 mg/m³
Risk Characterization Ratio (RCR)	0,002303
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC23_1, PC31_1: Subcategory: Polishes, wax / cream (floor, furniture, shoes)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 90 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per month
Room size	58 m3
Ventilation rate per hour	0,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	220000 cm²
	Release area increases over time

Release duration	90 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	7,1683 mg/m³
Risk Characterization Ratio (RCR)	0,551407
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

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3. Short title of exposure scenario

Use as a Process chemical, (use in industrial settings)
ERC4; PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.

Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Use suitable eye protection.	
In case of potential exposure:, Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	0,0367 mg/m³
Risk Characterization Ratio (RCR)	0,000502
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker

	Worker - inhalation, long-term - local
Exposure estimate	3,6729 mg/m³
Risk Characterization Ratio (RCR)	0,050204
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	11,0188 mg/m³
Risk Characterization Ratio (RCR)	0,150612
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used	

correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

4. Short title of exposure scenario

Use in Cleaning Agents, (use in industrial settings)
ERC4; PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker

	Worker - inhalation, long-term - local
Exposure estimate	0,0367 mg/m³
Risk Characterization Ratio (RCR)	0,000502
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	3,6729 mg/m³
Risk Characterization Ratio (RCR)	0,050204
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario

Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	11,0188 mg/m³
Risk Characterization Ratio (RCR)	0,150612
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	

Surface spraying with no or low compressed air use.	
Ensure medium level containment	
Ensure that general housekeeping is in place	
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, Advanced REACH Tool v1.5
	Worker - inhalation, long-term - local
Exposure estimate	31 mg/m³
Risk Characterization Ratio (RCR)	0,423729
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure	

only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³

Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial

Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor

	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	

Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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5. Short title of exposure scenario

Use in Coatings, (use in industrial settings)
ERC4; PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC4: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.

Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	0,0367 mg/m³
Risk Characterization Ratio (RCR)	0,000502
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with	

substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	3,6729 mg/m³
Risk Characterization Ratio (RCR)	0,050204
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	11,0188 mg/m³
Risk Characterization Ratio (RCR)	0,150612

Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying Use domain: industrial
Operational conditions	

Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Surface spraying with no or low compressed air use.	
Ensure medium level containment	
Ensure that general housekeeping is in place	
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Regular inspection and maintenance of equipment and machines.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, Advanced REACH Tool v1.5
	Worker - inhalation, long-term - local
Exposure estimate	31 mg/m³
Risk Characterization Ratio (RCR)	0,423729
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and

	pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.

Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	

Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid

Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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6. Short title of exposure scenario

Use as an intermediate
ERC6a; PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC6a: Use of intermediate As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

	Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	0,0367 mg/m³
Risk Characterization Ratio (RCR)	0,000502
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance	414 Pa

during use	
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	3,6729 mg/m³
Risk Characterization Ratio (RCR)	0,050204
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used	

correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	11,0188 mg/m³
Risk Characterization Ratio (RCR)	0,150612
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario

Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid

Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be	

applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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7. Short title of exposure scenario

Use in Agrochemicals, (use in professional settings)
ERC8a, ERC8d; PROC8a, PROC8b, PROC9, PROC11, PROC13

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional

Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	64,276 mg/m³
Risk Characterization Ratio (RCR)	0,878568
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance	414 Pa

during use	
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be	

applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	outdoor, away from buildings
	Assumes activities are at ambient temperature.
Application rate	> 3 l/min
Risk Management Measures	
Ensure that the task is carried out only downward.	
Ensure that general housekeeping is in place	
Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m).	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	

Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, Advanced REACH Tool v1.5
	Worker - inhalation, long-term - local
Exposure estimate	43 mg/m³
Risk Characterization Ratio (RCR)	0,587753
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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8. Short title of exposure scenario

Use in Cleaning Agents, (use in professional settings)
ERC8a, ERC8d; PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be	

applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	

Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	64,276 mg/m³
Risk Characterization Ratio (RCR)	0,878568
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid

Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	64,276 mg/m³
Risk Characterization Ratio (RCR)	0,878568
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
	Large workrooms only
Application rate	< 3 l/min

Risk Management Measures	
Surface spraying with no or low compressed air use.	
Ensure medium level containment	
Ensure that general housekeeping is in place	
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, Advanced REACH Tool v1.5
	Worker - inhalation, long-term - local
Exposure estimate	31 mg/m³
Risk Characterization Ratio (RCR)	0,423729
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure	

only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Wear suitable respiratory protection.	Effectiveness: 90 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	9,1823 mg/m³

Risk Characterization Ratio (RCR)	0,12551
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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9. Short title of exposure scenario

Use in Coatings, (use in professional settings)
ERC8a, ERC8d; PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC19

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.

Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	

Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	64,276 mg/m³
Risk Characterization Ratio (RCR)	0,878568
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039

Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: professional
Operational conditions	

Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	64,276 mg/m³
Risk Characterization Ratio (RCR)	0,878568
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week

Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Surface spraying with no or low compressed air use.	
Ensure medium level containment	
Ensure that general housekeeping is in place	
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, Advanced REACH Tool v1.5
	Worker - inhalation, long-term - local
Exposure estimate	31 mg/m³
Risk Characterization Ratio (RCR)	0,423729
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

Contributing exposure scenario	
Use descriptors covered	PROC13: Treatment of articles by dipping and pouring. Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	

Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Wear suitable respiratory protection.	Effectiveness: 90 %
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant	

gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	9,1823 mg/m³
Risk Characterization Ratio (RCR)	0,12551
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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10. Short title of exposure scenario

Use in laboratories, (use in professional settings)
ERC8a; PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: professional
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	

Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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11. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures
ERC2; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa

Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	0,0367 mg/m³
Risk Characterization Ratio (RCR)	0,000502
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be	

applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	3,6729 mg/m³
Risk Characterization Ratio (RCR)	0,050204
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	

Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	11,0188 mg/m³
Risk Characterization Ratio (RCR)	0,150612
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario

Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance	414 Pa

during use	
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be	

applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local

Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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12. Short title of exposure scenario

Manufacture of substance
ERC1; PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC1: Manufacture of the substance As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Use suitable eye protection.	
In case of potential exposure:, Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	0,0367 mg/m³
Risk Characterization Ratio (RCR)	0,000502
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario

Use descriptors covered	PROC2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	3,6729 mg/m³
Risk Characterization Ratio (RCR)	0,050204
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol

	Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	11,0188 mg/m³
Risk Characterization Ratio (RCR)	0,150612
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	

Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant	

gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	36,7292 mg/m³
Risk Characterization Ratio (RCR)	0,502039
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC15: Use a laboratory reagent. Use domain: industrial
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Assumes activities are at ambient temperature.
Risk Management Measures	
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.	
Personal measures have to be applied in case of potential exposure only.	
Use suitable eye protection.	
Avoid frequent and direct contact with substance.	
Use suitable chemically resistant gloves.	
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA v3.0, Worker
	Worker - inhalation, long-term - local
Exposure estimate	18,3646 mg/m³
Risk Characterization Ratio (RCR)	0,251019
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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13. Short title of exposure scenario

Use in Cleaning Agents, (consumer use)
ERC8a, ERC8d; PC3, PC4, PC9c, PC24, PC32, PC35, PC38

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ERC8a: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	ERC8d: Widespread use of non-reactive processing aid

	(no inclusion into or onto article, outdoor) As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PC3_1: Subcategory: Air care, instant action (aerosol sprays)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	90 uses per year
Room size	58 m3
Ventilation rate per hour	0,5
body weight	65 kg
Spray duration	19,8 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,0406 mg/m³
Risk Characterization Ratio (RCR)	0,003123
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 1 %
Vapour pressure of the substance	414 Pa

during use	
Duration and Frequency of activity	Exposure duration: 1,2 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 20 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	60000 cm²
	Release area is constant
Release duration	20 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	0,1409 mg/m³
Risk Characterization Ratio (RCR)	0,000647
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 3 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 10,2 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 5 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	100 cm²
	Release area is constant
Release duration	5 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	

Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, short-term - systemic
Exposure estimate	81,3051 mg/m³
Risk Characterization Ratio (RCR)	0,372959
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 15 min Relevant for inhalative exposure estimates
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
Spray duration	900 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, short-term - systemic
Exposure estimate	5,1461 mg/m³
Risk Characterization Ratio (RCR)	0,023606
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC9c: Finger paints
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 9 %
Vapour pressure of the substance	414 Pa

during use	
Duration and Frequency of activity	365 uses per year
body weight	16,3 kg
Uptake fraction oral	100 %
	Amount ingested 1,35 g Relevant for oral exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Oral model: direct intake, Uptake model: Uptake fraction
	Consumer - oral, long-term - systemic
Exposure estimate	7,454 mg/kg bw/day
Risk Characterization Ratio (RCR)	0,596319
	The calculation is based on the internal chronic dose.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC13_1, PC24_1: Subcategory: Liquids
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per year
body weight	65 kg
Release duration	60 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - constant rate
	Consumer - inhalation, long-term - systemic
Exposure estimate	8,6096 mg/m³
Risk Characterization Ratio (RCR)	0,662278
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario

Use descriptors covered	PC24_2: Subcategory: Pastes
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
body weight	65 kg
	Amount per use 30 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: evaporation model - instantaneous release
	Consumer - inhalation, long-term - systemic
Exposure estimate	4,7003 mg/m³
Risk Characterization Ratio (RCR)	0,361559
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC32: Polymer Preparations and Compounds.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 3 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 45 min Relevant for inhalative exposure estimates
Room size	57,5 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 550 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	

Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: evaporation model - instantaneous release
	Consumer - inhalation, short-term - systemic
Exposure estimate	172,2984 mg/m³
Risk Characterization Ratio (RCR)	0,79036
	The exposure calculation is based on a single use of the product.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8_1, PC35_1: Subcategory: Laundry and dish washing products
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 16 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	426 uses per year
Room size	15 m3
Ventilation rate per hour	2,5
Temperature (Application)	45 °C
body weight	65 kg
Release area	0,15 cm²
	Release area is constant
Release duration	16 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,1627 mg/m³
Risk Characterization Ratio (RCR)	0,012516
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8_3, PC35_3: Subcategory: Cleaners, trigger sprays (all

	purpose cleaners, sanitary products, glass cleaners)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	365 uses per year
Room size	15 m3
Ventilation rate per hour	2,5
body weight	65 kg
Spray duration	24,6 sec
Risk Management Measures	
Consumer Measures	Ensure spraying away from persons.
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: Exposure to spray/dust
	Consumer - inhalation, long-term - systemic
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000002
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC8_2, PC35_2: Subcategory: Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 20 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	365 uses per year

Room size	58 m3
Ventilation rate per hour	0,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	100000 cm²
	Release area increases over time
Release duration	20 min
	Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: exposure to vapour - evaporation
	Consumer - inhalation, long-term - systemic
Exposure estimate	1,6526 mg/m³
Risk Characterization Ratio (RCR)	0,127122
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	
For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp	

Contributing exposure scenario	
Use descriptors covered	PC38: Welding and soldering products, flux products.
Operational conditions	
Concentration of the substance	To be archived: Reaction mass of 2-methylbutan-1-ol and pentan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	414 Pa
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	365 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
body weight	65 kg
	Amount per use 12 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ConsExpo v4.1, Inhalation model: evaporation model - instantaneous release
	Consumer - inhalation, long-term - systemic
Exposure estimate	1,8801 mg/m³
Risk Characterization Ratio (RCR)	0,144624
	The exposure calculation is based on the mean concentration on the day of exposure.
Guidance to Downstream Users	

BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

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Product: **PENTANOL MIXTURE**

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For scaling see: http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp

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