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: 13.11.2023 Version: 1.0
Date previous version: not applicable Previous version: none
Date / First version: 13.11.2023
Product: **ISOBUTANOL**

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

1.1. Product identifier

ISOBUTANOL

Chemical name: isobutyl alcohol
INDEX-Number: 603-108-00-1
CAS Number: 78-83-1

REACH registration number: 01-2119484609-23-0000, 01-2119484609-23-0011, 01-2119484609-23-0013, 01-2119484609-23

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 Hellas S.A.
Sindos Industrial Area
57022 Sindos
GREECE

Telephone: +30 2310 797-195
E-mail address: gr-psr-hellas@basf.com

1.4. Emergency telephone number

Greek Poison Information Centre
0030 210 7793777 (24 hours / 7 days)

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.
Skin Corr./Irrit. 2	H315 Causes skin irritation.
Eye Dam./Irrit. 1	H318 Causes serious eye damage.
STOT SE 3	H336 May cause drowsiness or dizziness.
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.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.

Precautionary Statements (Prevention):

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

Precautionary Statements (Response):

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

Precautionary Statements (Storage):

P233	Keep container tightly closed.

Precautionary Statements (Disposal):

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

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.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

2-methylpropan-1-ol

Content (W/W): > 99,5 %	Flam. Liq. 3
CAS Number: 78-83-1	Skin Corr./Irrit. 2
EC-Number: 201-148-0	Eye Dam./Irrit. 1
	STOT SE 3 (drowsiness and dizziness)
	STOT SE 3 (irr. to respiratory syst.)
	H226, H318, H315, H336, H335

Regulatory relevant ingredients

2-methylpropan-1-ol

Content (W/W): >= 99,63 % - <= 99,845 %	Flam. Liq. 3
CAS Number: 78-83-1	Skin Corr./Irrit. 2
EC-Number: 201-148-0	Eye Dam./Irrit. 1
	STOT SE 3 (drowsiness and dizziness)
	STOT SE 3 (irr. to respiratory syst.)
	H226, H318, H315, H336, H335

butan-1-ol

Content (W/W): >= 0,001 % - <= 0,201 %	Flam. Liq. 3
CAS Number: 71-36-3	Acute Tox. 4 (oral)
EC-Number: 200-751-6	Skin Corr./Irrit. 2
	Eye Dam./Irrit. 1
	STOT SE 3 (drowsiness and dizziness)
	STOT SE 3 (irr. to respiratory syst.)
	H226, H318, H315, H302, H336, H335

propan-1-ol

Content (W/W): >= 0 % - <= 0,1 %	Flam. Liq. 2
CAS Number: 71-23-8	Eye Dam./Irrit. 1
EC-Number: 200-746-9	STOT SE 3 (drowsiness and dizziness)
INDEX-Number: 603-003-00-0	H225, H318, H336

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. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:
Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

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.

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, alcohol-resistant 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: Keep container tightly closed and dry; store in a cool 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

78-83-1: 2-methylpropan-1-ol
TWA value 300 mg/m3 ; 100 ppm (OEL (GR))
STEL value 300 mg/m3 ; 100 ppm (OEL (GR))
Ceiling limit value/factor: 15 min

PNEC

freshwater: 0,4 mg/l

marine water: 0,04 mg/l

intermittent release: 11 mg/l

sediment (freshwater): 1,56 mg/kg

sediment (marine water): 0,156 mg/kg

soil: 0,0765 mg/kg

STP: 10 mg/l

DNEL

worker:
Long-term exposure - local effects, Inhalation: 310 mg/m3

consumer:
Long-term exposure - local effects, Inhalation: 55 mg/m3

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:
Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. 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 contact with the skin, eyes and clothing. Avoid inhalation of vapour. 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:	alcohol-like	
Odour threshold:	not determined	
Melting point:	< -90 °C	(ASTM D97)
Boiling point:	108 °C (1.013 hPa)	(OECD Guideline 103)
Flammability:	Flammable liquid and vapour.	(derived from flash point)
Lower explosion limit:	1,1 %(V) (19,9 °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.	
Upper explosion limit:	11,7 %(V) (59,4 °C) The upper explosion point of the substance/mixture has been determined. This explosion point describes the temperature of a flammable liquid at which the concentration of the saturated vapour mixted with air equals the upper explosion limit.	
Flash point:	31 °C	(ISO 2719, closed cup)
Auto-ignition temperature:	400 °C	(DIN 51794)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
pH value:	not applicable	
Viscosity, dynamic:	3,103 mPa.s (20 °C) Literature data.	

Thixotropy:	not thixotropic	
Solubility in water:	70 g/l (20 °C)	(OECD Guideline 105)
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	1 (25 °C)	(OECD Guideline 117)
Vapour pressure:	9,5 hPa (20 °C) 70,7 hPa (50 °C)	
Relative density:	0,8017 (20 °C)	(DIN 51757)
Density:	0,8017 g/cm3 (20 °C)	(DIN 51757)
Relative vapour density (air):	2,55 (20 °C) Heavier than air.	(calculated)

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

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.

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

No corrosive effect on metal.

Other safety characteristics

pKA:
The substance does not dissociate.

Adsorption/water - soil:	KOC: 2,92; log KOC: 0,47	(calculated)
Surface tension:	69,7 mN/m (20 °C; 1 g/l)	(OECD Guideline 115, Ring method)
Molar mass:	74,12 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

Corrosion to metals:	No corrosive effect on metal.	
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

Reacts with strong oxidizing agents.

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 single ingestion. Of low toxicity after short-term skin contact. Virtually nontoxic by inhalation.

Experimental/calculated data:

LD50 rat (oral): > 2.830 - 3.350 mg/kg (OECD Guideline 401)
LC50 rat (by inhalation): > 18,18 mg/l 6 h (similar to OECD guideline 403)
The vapour was tested.
LD50 rabbit (dermal): > 2.000 - 2.460 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects:

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

Experimental/calculated data:

Skin corrosion/irritation

rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation

rabbit: irreversible damage (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing.
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals.

Carcinogenicity

Assessment of carcinogenicity:
The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Experiences in humans

Experimental/calculated data:

High concentrations have a narcotizing effect.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Possible narcotic effects (drowsiness or dizziness). Causes temporary irritation of the respiratory tract.

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

Assessment of repeated dose toxicity:

No substance-specific organtoxicity was observed after repeated administration to animals.

Aspiration hazard

Some authorities consider isobutyl alcohol, n-primary alcohols and ketones with C3-C13 as "May be harmful if swallowed and enters airways"

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) 1.430 mg/l, Pimephales promelas (Fish test acute, Flow through.)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates:
EC50 (48 h) 1.100 mg/l, Daphnia pulex (ASTM E1193-97, static)
Nominal concentration.

Aquatic plants:
EC50 (72 h) 1.799 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:
Toxic limit concentration (16 h) 280 mg/l, Pseudomonas putida (DIN 38412 Part 8, aquatic)

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

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (21 d) 20 mg/l, Daphnia magna (Daphnia test chronic, semistatic)
Nominal concentration.

Assessment of terrestrial toxicity:
No data available concerning terrestrial toxicity.

12.2. Persistence and degradability

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

Elimination information:
70 - 80 % BOD of the ThOD (28 d) (OECD 301D; 92/69/EWG, C.4-E) (aerobic, other)

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

Information on Stability in Water (Hydrolysis):

No data available.

No data available.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Significant 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.

12.8. Additional information

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

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Dispose of in accordance with national, state and local regulations.

Contaminated packaging:
Disposal must be made according to official regulations.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number:	UN1212
UN proper shipping name:	ISOBUTANOL (ISOBUTYL ALCOHOL)
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:	UN1212
UN proper shipping name:	ISOBUTANOL (ISOBUTYL ALCOHOL)
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:	UN1212
UN proper shipping name:	ISOBUTANOL (ISOBUTYL ALCOHOL)
Transport hazard class(es):	3
Packing group:	III
Environmental hazards:	no
Special precautions for user:	None known

Transport in inland waterway vessel

UN number or ID number:	UN1212
UN proper shipping name:	ISOBUTANOL
Transport hazard class(es):	3
Packing group:	III
Environmental hazards:	no
Type of inland waterway vessel:	N
Cargo tank design:	3
Cargo tank type:	2

Sea transport

IMDG

UN number or ID number:	UN 1212
UN proper shipping name:	ISOBUTANOL (ISOBUTYL ALCOHOL)
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 1212
UN proper shipping name:	ISOBUTANOL
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:	Isobutyl alcohol
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: 40, 3, 75

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
List entry in regulation: P5a
List entry in regulation: P5b
List entry in regulation: P5c

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

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
Eye Dam./Irrit. 1
STOT SE 3 (irritating to respiratory system)
Skin Corr./Irrit. 2
STOT SE 3 (May cause drowsiness and dizziness.)
Acute Tox. 5 (oral)
Acute Tox. 5 (dermal)
Asp. Tox. 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
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
Acute Tox.	Acute toxicity
H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.
H302	Harmful if swallowed.
H225	Highly flammable liquid and vapour.

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.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Annex: Exposure Scenarios

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2. Distribution of substance, (use in professional settings)
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ERC8a, ERC8d, ERC9a, ERC9b; PC1, PC24, PC31, PC35

18. Use in Lubricants, (use in industrial settings)
ERC4, ERC7; PROC7, PROC10, PROC13, PROC17, PROC18

19. Use in Lubricants, (use in professional settings)
ERC8a, ERC8d, ERC9a, ERC9b; PROC10, PROC11, PROC13, PROC17, PROC18, PROC20

20. Use in Metal working fluids / rolling oils, (use in industrial settings)
ERC4; PROC7, PROC10, PROC13, PROC17

21. Use in Metal working fluids / rolling oils, (use in professional settings)
ERC8a; PROC10, PROC11, PROC13, PROC17

22. Use in Personal care products
ERC8a; PC28, PC39

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1. Short title of exposure scenario

Distribution of substance, (use in industrial settings)
ERC4, ERC6a, ERC7; PROC8a, PROC8b, PROC9

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	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	ERC7: Use of functional fluid at industrial site

	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: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	77,21 mg/m³
Risk Characterization Ratio (RCR)	0,249065
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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2. Short title of exposure scenario

Distribution of substance, (use in professional settings)
ERC8a, ERC8d; PROC8a, PROC8b, PROC9

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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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3. Short title of exposure scenario

Formulation
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	0,0309 mg/m³
Risk Characterization Ratio (RCR)	0,0001
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa

Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	15,442 mg/m³
Risk Characterization Ratio (RCR)	0,049813
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct	

contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	61,768 mg/m³
Risk Characterization Ratio (RCR)	0,199252
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	77,21 mg/m³
Risk Characterization Ratio (RCR)	0,249065
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs	

followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
Assessment method	Qualitative assessment

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

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4. Short title of exposure scenario

Production
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	

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	0,0309 mg/m³
Risk Characterization Ratio (RCR)	0,0001
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	15,442 mg/m³
Risk Characterization Ratio (RCR)	0,049813
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	61,768 mg/m³
Risk Characterization Ratio (RCR)	0,199252
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week

Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	

Use suitable eye protection.	
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	77,21 mg/m³
Risk Characterization Ratio (RCR)	0,249065
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
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 as a Process chemical
ERC4; PROC1, PROC2, PROC3, PROC4

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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	0,0309 mg/m³
Risk Characterization Ratio (RCR)	0,0001
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	15,442 mg/m³
Risk Characterization Ratio (RCR)	0,049813
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week

Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	61,768 mg/m³
Risk Characterization Ratio (RCR)	0,199252
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

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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	0,0309 mg/m³
Risk Characterization Ratio (RCR)	0,0001
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor

Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	15,442 mg/m³
Risk Characterization Ratio (RCR)	0,049813
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	

Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	61,768 mg/m³
Risk Characterization Ratio (RCR)	0,199252
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 as co-formulant in Plant protection products, (consumer use)
ERC8a, ERC8d; PC27

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ECPA SPERC 8d.2.v2 spray application
Operational conditions	
Maximum annual application rate	6,88 kg/ha
Emission factor air	100 %
Emission factor water	0,2 %
Emission factor soil	0 %
Number of applications	1
Other Factors: Environment	Indoor use.
application interval	1 days
	Indoor use.
Risk Management Measures	
Type of STP	no STP
Exposure estimate and reference to its source	
Assessment method	ECPA LET
Risk Characterization Ratio (RCR)	0,9
	Risk from environmental exposure is driven by freshwater.
Maximum amount of safe use	6,88 kg/ha
Risk from environmental exposure is driven by freshwater.	

Contributing exposure scenario	
Use descriptors covered	ECPA SPERC 8d.2.v2 spray application
Operational conditions	
Maximum annual application rate	6,88 kg/ha
Emission factor air	100 %

Emission factor water	0,2 %
Emission factor soil	0 %
Number of applications	1
Other Factors: Environment	Outdoor use.
application interval	1 days
	Outdoor use.
Risk Management Measures	
Type of STP	no STP
Exposure estimate and reference to its source	
Assessment method	ECPA LET
Risk Characterization Ratio (RCR)	0,9
	Risk from environmental exposure is driven by freshwater.
Maximum amount of safe use	6,88 kg/ha
Risk from environmental exposure is driven by freshwater.	

Contributing exposure scenario	
Use descriptors covered	PC27: Plant Protection products.
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	9 uses per year
Room size	58 m3
Ventilation rate per hour	0,5
body weight	65 kg
Spray duration	600 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	0,5809 mg/m³
Risk Characterization Ratio (RCR)	0,010561

	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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8. Short title of exposure scenario

Use as co-formulant in Plant protection products, (use in professional settings)
ERC8a, ERC8d; PROC11

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	ECPA SPERC 8d.2.v2 spray application
Operational conditions	
Maximum annual application rate	6,88 kg/ha
Emission factor air	100 %
Emission factor water	0,2 %
Emission factor soil	0 %
Number of applications	1
Other Factors: Environment	Indoor use.
application interval	1 days
	Indoor use.
Risk Management Measures	
Type of STP	no STP
Exposure estimate and reference to its source	
Assessment method	ECPA LET
Risk Characterization Ratio (RCR)	0,9
	Risk from environmental exposure is driven by freshwater.
Maximum amount of safe use	6,88 kg/ha
Risk from environmental exposure is driven by freshwater.	

Contributing exposure scenario	
Use descriptors covered	ECPA SPERC 8d.2.v2 spray application
Operational conditions	
Maximum annual application rate	6,88 kg/ha

Emission factor air	100 %
Emission factor water	0,2 %
Emission factor soil	0 %
Number of applications	1
Other Factors: Environment	Outdoor use.
application interval	1 days
	Outdoor use.
Risk Management Measures	
Type of STP	no STP
Exposure estimate and reference to its source	
Assessment method	ECPA LET
Risk Characterization Ratio (RCR)	0,9
	Risk from environmental exposure is driven by freshwater.
Maximum amount of safe use	6,88 kg/ha
Risk from environmental exposure is driven by freshwater.	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	outdoor, away from buildings
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 minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place	

are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	170 mg/m³
Risk Characterization Ratio (RCR)	0,548387
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Ensure that the task is not carried out overhead.	
Use equipment with a fixed capturing hood exhaust ventilation.	
Ensure that general housekeeping is in place	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	

Use suitable eye protection.	
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	220 mg/m³
Risk Characterization Ratio (RCR)	0,709677
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.advancedreachtool.com	

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9. Short title of exposure scenario

Use in Cleaning Agents, (consumer use)
ERC8a, ERC8d; PC4, PC9a, PC9c, PC24, 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	PC4: Anti-Freeze and De-icing products.
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance	1600 Pa

during use	
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 10 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 2.000 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	36,1512 mg/m³
Risk Characterization Ratio (RCR)	0,657294
	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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 15 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 4 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	0,5111 mg/m³
Risk Characterization Ratio (RCR)	0,009292
	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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 10 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 15 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	1,3557 mg/m³
Risk Characterization Ratio (RCR)	0,024649
	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	PC9a_1, PC15_1: Subcategory: Waterborne latex wall paint
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 1,5 %

Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 120 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	100000 cm²
	Release area increases over time
Release duration	120 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	27,5237 mg/m³
Risk Characterization Ratio (RCR)	0,500431
	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	PC9a_2, PC15_2: Subcategory: Solvent rich, high solid, water borne paint
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 120 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	100000 cm²
	Release area increases over time
Release duration	120 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	43,6319 mg/m³
Risk Characterization Ratio (RCR)	0,793308
	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	PC9a_3, PC15_3: Subcategory: Aerosol spray can
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 25 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 20 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	2 uses per year
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 400 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	32,1529 mg/m³
Risk Characterization Ratio (RCR)	0,584598
	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	PC9a_4, PC15_4: Subcategory: Removers (paint-, glue-, wall paper-, sealant-remover)
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 3 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	< 1 uses per year
Room size	30 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	50000 cm²
	Release area increases over time
Release duration	240 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	46,3115 mg/m³
Risk Characterization Ratio (RCR)	0,842028
	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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %

Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	365 uses per year
Exposed skin area	Both hands (820 cm²)
Uptake fraction dermal	100 %
Uptake fraction oral	100 %

Contributing exposure scenario	
Use descriptors covered	PC24: Lubricants, Greases and Release Products Exposure of the consumer can be ruled out. Use in closed system is assumed
Operational conditions	
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Contributing exposure scenario	
Use descriptors covered	PC8_1, PC35_1: Subcategory: Laundry and dish washing products
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 1 h 365 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
Exposed skin area	Both hands (820 cm²)
Uptake fraction dermal	100 %
	Amount per use 15 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA, Consumer
	Consumer - inhalation, long-term - systemic

Exposure estimate	23,4375 mg/m³
Risk Characterization Ratio (RCR)	0,426136
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 0,75 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 0,3 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	104 uses per year
Room size	1 m3
Ventilation rate per hour	0,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	20 cm²
	Release area is constant
Release duration	0,3 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	4,5898 mg/m³
Risk Characterization Ratio (RCR)	0,083451
	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	2-methylpropan-1-ol Content: >= 0 % - <= 4 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 30 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	104 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	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, long-term - systemic
Exposure estimate	42,7271 mg/m³
Risk Characterization Ratio (RCR)	0,776856
	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	2-methylpropan-1-ol Content: >= 0 % - <= 20 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 25 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	52 uses per year
Room size	10 m3
Ventilation rate per hour	2
Temperature (Application)	20 °C
body weight	65 kg
Release area	64000 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, long-term - systemic
Exposure estimate	7,0627 mg/m³
Risk Characterization Ratio (RCR)	0,128413
	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	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 60 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
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)	0,034184
	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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10. Short title of exposure scenario

Use in Cleaning Agents, (use in industrial settings)
ERC4; PROC7, PROC10, PROC13

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	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases 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. Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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

Use in Cleaning Agents, (use in professional settings)
ERC8a, ERC8d; 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	PROC10: Roller application or brushing Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual	

phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Ensure that the task is not carried out overhead.	
Use equipment with a fixed capturing hood exhaust ventilation.	
Ensure that general housekeeping is in place	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	220 mg/m³
Risk Characterization Ratio (RCR)	0,709677
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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

Use in Coatings, Use in Paints, Use in Printing inks, Use in Adhesives, (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_1: Subcategory: Glues, hobby use
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 30 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 4 h 365 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
Exposed skin area	Fingertips (36 cm2)
Uptake fraction dermal	100 %
	Amount per use 9 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA, Consumer
	Consumer - inhalation, long-term - systemic
Exposure estimate	39,7059 mg/m³
Risk Characterization Ratio (RCR)	0,721925
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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	2-methylpropan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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
Duration and Frequency of activity	< 1 uses per year
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, long-term - systemic
Exposure estimate	49,4508 mg/m³
Risk Characterization Ratio (RCR)	0,899106
	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	2-methylpropan-1-ol Content: >= 0 % - <= 6 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 3 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	12 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 is constant
Release duration	3 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	38,644 mg/m³
Risk Characterization Ratio (RCR)	0,702618
	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_4: Subcategory: Sealant
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 12 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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
Duration and Frequency of activity	3 uses per year
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, long-term - systemic
Exposure estimate	11,549 mg/m³
Risk Characterization Ratio (RCR)	0,209982
	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	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 10 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 2.000 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	36,1512 mg/m³
Risk Characterization Ratio (RCR)	0,657294
	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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 15 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 4 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	0,5111 mg/m³
Risk Characterization Ratio (RCR)	0,009292
	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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 10 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
Room size	34 m3
Ventilation rate per hour	1,5

body weight	65 kg
	Amount per use 15 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	1,3557 mg/m³
Risk Characterization Ratio (RCR)	0,024649
	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	PC9a_1, PC15_1: Subcategory: Waterborne latex wall paint
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 1,5 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 120 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	100000 cm²
	Release area increases over time
Release duration	120 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	27,5237 mg/m³
Risk Characterization Ratio (RCR)	0,500431

	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	PC9a_2, PC15_2: Subcategory: Solvent rich, high solid, water borne paint
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 120 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	100000 cm²
	Release area increases over time
Release duration	120 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	43,6319 mg/m³
Risk Characterization Ratio (RCR)	0,793308
	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	PC9a_3, PC15_3: Subcategory: Aerosol spray can
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol

	Content: >= 0 % - <= 25 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 20 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	2 uses per year
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 400 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	32,1529 mg/m³
Risk Characterization Ratio (RCR)	0,584598
	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	PC9a_4, PC15_4: Subcategory: Removers (paint-, glue-, wall paper-, sealant-remover)
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 3 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	< 1 uses per year
Room size	30 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C

body weight	65 kg
Release area	50000 cm²
	Release area increases over time
Release duration	240 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	46,3115 mg/m³
Risk Characterization Ratio (RCR)	0,842028
	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	2-methylpropan-1-ol Content: >= 0 % - <= 15 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	365 uses per year
Exposed skin area	Both hands (820 cm²)
Uptake fraction dermal	100 %
Uptake fraction oral	100 %

Contributing exposure scenario	
Use descriptors covered	PC15: Non-metal-surface treatment products.
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 1,5 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min

	Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 120 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	100000 cm²
	Release area increases over time
Release duration	120 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	27,5237 mg/m³
Risk Characterization Ratio (RCR)	0,500431
	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	2-methylpropan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 120 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	100000 cm²

	Release area increases over time
Release duration	120 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	43,6319 mg/m³
Risk Characterization Ratio (RCR)	0,793308
	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	2-methylpropan-1-ol Content: >= 0 % - <= 25 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 20 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	2 uses per year
Room size	34 m3
Ventilation rate per hour	1,5
body weight	65 kg
	Amount per use 400 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	32,1529 mg/m³
Risk Characterization Ratio (RCR)	0,584598
	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	2-methylpropan-1-ol Content: >= 0 % - <= 3 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	< 1 uses per year
Room size	30 m3
Ventilation rate per hour	1,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	50000 cm²
	Release area increases over time
Release duration	240 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	46,3115 mg/m³
Risk Characterization Ratio (RCR)	0,842028
	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	2-methylpropan-1-ol Content: >= 0 % - <= 4 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 132 min Relevant for inhalative exposure estimates

Duration and Frequency of activity	1 uses per day
Room size	20 m3
Ventilation rate per hour	0,6
body weight	65 kg
	Amount per use 40 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	4,0718 mg/m³
Risk Characterization Ratio (RCR)	0,074033
	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	2-methylpropan-1-ol Content: >= 0 % - <= 30 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	1 uses per day
body weight	65 kg
Release duration	240 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	33,4645 mg/m³
Risk Characterization Ratio (RCR)	0,608445
	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: Lubricants, Greases and Release Products Exposure of the consumer can be ruled out. Use in closed system is assumed
Operational conditions	
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Contributing exposure scenario	
Use descriptors covered	PC23_1, PC31_1: Subcategory: Polishes, wax / cream (floor, furniture, shoes)
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 20 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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 year
Room size	58 m3
Ventilation rate per hour	2,5
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	31,5875 mg/m³
Risk Characterization Ratio (RCR)	0,574318
	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	2-methylpropan-1-ol Content: >= 0 % - <= 20 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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 year
Room size	58 m3
Ventilation rate per hour	2,5
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	31,5875 mg/m³
Risk Characterization Ratio (RCR)	0,574318
	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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13. Short title of exposure scenario

Use in Coatings, Use in Paints, Use in Printing inks, Use in Adhesives, (use in industrial settings)
ERC4; PROC7, PROC10, PROC13

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	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001

Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol

	Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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14. Short title of exposure scenario

Use in Coatings, Use in Paints, Use in Printing inks, Use in Adhesives, (use in professional settings) ERC8a, ERC8d; 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	PROC10: Roller application or brushing Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	

Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Ensure that the task is not carried out overhead.	
Use equipment with a fixed capturing hood exhaust ventilation.	
Ensure that general housekeeping is in place	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	220 mg/m³
Risk Characterization Ratio (RCR)	0,709677
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %

Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor

Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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15. Short title of exposure scenario

Use in laboratories, (use in industrial settings)
ERC4, ERC6a, ERC7; 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	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	ERC7: Use of functional fluid at industrial site 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: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³
Risk Characterization Ratio (RCR)	0,099626
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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16. 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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	30,884 mg/m³

Risk Characterization Ratio (RCR)	0,099626
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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17. Short title of exposure scenario

Use in Lubricants, (consumer use)
ERC8a, ERC8d, ERC9a, ERC9b; PC1, PC24, PC31, PC35

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	ERC9a: Widespread use of functional fluid (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	ERC9b: Widespread use of functional fluid (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_1: Subcategory: Glues, hobby use
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 30 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 4 h 365 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
Exposed skin area	Fingertips (36 cm2)
Uptake fraction dermal	100 %
	Amount per use 9 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA, Consumer
	Consumer - inhalation, long-term - systemic
Exposure estimate	39,7059 mg/m³
Risk Characterization Ratio (RCR)	0,721925
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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	2-methylpropan-1-ol Content: >= 0 % - <= 2 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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
Duration and Frequency of activity	< 1 uses per year
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, long-term - systemic
Exposure estimate	49,4508 mg/m³
Risk Characterization Ratio (RCR)	0,899106
	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	2-methylpropan-1-ol Content: >= 0 % - <= 6 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 3 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	12 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 is constant
Release duration	3 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	38,644 mg/m³
Risk Characterization Ratio (RCR)	0,702618
	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_4: Subcategory: Sealant
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 12 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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
Duration and Frequency of activity	3 uses per year
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, long-term - systemic
Exposure estimate	11,549 mg/m³
Risk Characterization Ratio (RCR)	0,209982
	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: Lubricants, Greases and Release Products Exposure of the consumer can be ruled out. Use in closed

	system is assumed
Operational conditions	
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Contributing exposure scenario	
Use descriptors covered	PC23_1, PC31_1: Subcategory: Polishes, wax / cream (floor, furniture, shoes)
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 20 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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 year
Room size	58 m3
Ventilation rate per hour	2,5
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	31,5875 mg/m³
Risk Characterization Ratio (RCR)	0,574318
	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	2-methylpropan-1-ol Content: >= 0 % - <= 20 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
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 year
Room size	58 m3
Ventilation rate per hour	2,5
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	31,5875 mg/m³
Risk Characterization Ratio (RCR)	0,574318
	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_1, PC35_1: Subcategory: Laundry and dish washing products
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 5 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Duration and Frequency of activity	Exposure duration: 1 h 365 uses per year
Room size	20 m3
Ventilation rate per hour	0,6
Exposed skin area	Both hands (820 cm²)
Uptake fraction dermal	100 %
	Amount per use 15 g Relevant for inhalative exposure estimates
Exposure estimate and reference to its source	
Assessment method	EASY TRA v4.2, ECETOC TRA, Consumer
	Consumer - inhalation, long-term - systemic
Exposure estimate	23,4375 mg/m³
Risk Characterization Ratio (RCR)	0,426136
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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	2-methylpropan-1-ol Content: >= 0 % - <= 50 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 0,75 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 0,3 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	104 uses per year
Room size	1 m3
Ventilation rate per hour	0,5
Temperature (Application)	20 °C
body weight	65 kg
Release area	20 cm²
	Release area is constant
Release duration	0,3 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	4,5898 mg/m³
Risk Characterization Ratio (RCR)	0,083451
	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	2-methylpropan-1-ol Content: >= 0 % - <= 4 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 240 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	Application duration: 30 min Relevant for inhalative exposure estimates
Duration and Frequency of activity	104 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	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, long-term - systemic
Exposure estimate	42,7271 mg/m³
Risk Characterization Ratio (RCR)	0,776856
	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	2-methylpropan-1-ol Content: >= 0 % - <= 20 %
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	Exposure duration: 25 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	52 uses per year
Room size	10 m3
Ventilation rate per hour	2
Temperature (Application)	20 °C
body weight	65 kg
Release area	64000 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, long-term - systemic
Exposure estimate	7,0627 mg/m³
Risk Characterization Ratio (RCR)	0,128413
	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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18. Short title of exposure scenario

Use in Lubricants, (use in industrial settings)
ERC4, ERC7; PROC7, PROC10, PROC13, PROC17, PROC18

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	ERC7: Use of functional fluid at industrial site As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.
Operational conditions	

Contributing exposure scenario	
Use descriptors covered	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa

Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	10001 Pa
Process temperature	108 °C
	Corresponds to a vapour pressure > 100.0 hPa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %

Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC18: General greasing /lubrication at high kinetic energy conditions Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC18: General greasing /lubrication at high kinetic energy conditions Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	10001 Pa
Process temperature	108 °C
	Corresponds to a vapour pressure > 100.0 hPa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment

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

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19. Short title of exposure scenario

Use in Lubricants, (use in professional settings)
ERC8a, ERC8d, ERC9a, ERC9b; PROC10, PROC11, PROC13, PROC17, PROC18, PROC20

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	ERC9a: Widespread use of functional fluid (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	ERC9b: Widespread use of functional fluid (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	PROC10: Roller application or brushing Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid

Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor

	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Ensure that the task is not carried out overhead.	
Use equipment with a fixed capturing hood exhaust ventilation.	
Ensure that general housekeeping is in place	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	220 mg/m³
Risk Characterization Ratio (RCR)	0,709677
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air	Effectiveness: 30 %

changes per hour)	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)	Effectiveness: 70 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	

Wear suitable working clothes.	
Use suitable eye protection.	
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	185,304 mg/m³
Risk Characterization Ratio (RCR)	0,597755
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	10001 Pa
Process temperature	108 °C
	Corresponds to a vapour pressure > 100.0 hPa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 80 %
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC18: General greasing /lubrication at high kinetic energy conditions Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)	Effectiveness: 70 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	185,304 mg/m³
Risk Characterization Ratio (RCR)	0,597755
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	

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

Contributing exposure scenario	
Use descriptors covered	PROC18: General greasing /lubrication at high kinetic energy conditions Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	10001 Pa
Process temperature	108 °C
	Corresponds to a vapour pressure > 100.0 hPa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 80 %
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC20: Use of functional fluids in small devices Use domain: professional

Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	61,768 mg/m³
Risk Characterization Ratio (RCR)	0,199252
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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20. Short title of exposure scenario

Use in Metal working fluids / rolling oils, (use in industrial settings)
ERC4; PROC7, PROC10, PROC13, PROC17

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	PROC7: Industrial spraying Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases 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. Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario

Use descriptors covered	PROC10: Roller application or brushing Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs	

followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	154,42 mg/m³
Risk Characterization Ratio (RCR)	0,498129
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: industrial
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	10001 Pa
Process temperature	108 °C
	Corresponds to a vapour pressure > 100.0 hPa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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21. Short title of exposure scenario

Use in Metal working fluids / rolling oils, (use in professional settings)
ERC8a; PROC10, PROC11, PROC13, PROC17

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	PROC10: Roller application or brushing Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual	

phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Ensure minimization of manual phases Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Clean equipment and the work area every day. Regular inspection and maintenance of equipment and machines.	
Ensure that a spraying booth is used.	
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, Stoffenmanager 8
	Worker - inhalation, long-term - local
Exposure estimate	0,0001 mg/m³
Risk Characterization Ratio (RCR)	0,000001
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: https://www.stoffenmanager.nl/default.aspx	

Contributing exposure scenario	
Use descriptors covered	PROC11: Non industrial spraying Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 10 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
	Large workrooms only
Application rate	< 3 l/min
Risk Management Measures	
Ensure that the task is not carried out overhead.	
Use equipment with a fixed capturing hood exhaust ventilation.	
Ensure that general housekeeping is in place	
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	220 mg/m³
Risk Characterization Ratio (RCR)	0,709677
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	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: professional
Operational conditions	
Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour)	Effectiveness: 70 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	185,304 mg/m³
Risk Characterization Ratio (RCR)	0,597755
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC17: Lubrication at high energy conditions in metal working operations Use domain: professional
Operational conditions	

Concentration of the substance	2-methylpropan-1-ol Content: >= 0 % - <= 100 %
Physical state	liquid
Vapour pressure of the substance during use	10001 Pa
Process temperature	108 °C
	Corresponds to a vapour pressure > 100.0 hPa
Duration and Frequency of activity	480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Local exhaust ventilation	Effectiveness: 80 %
Provide a good standard of general ventilation (not less than 3 - 5 air changes per hour)	Effectiveness: 30 %
Ensure minimization of manual phases Avoid frequent and direct contact with substance. Supervision in place to check that the RMMs in place are being used correctly and OCs followed. Avoid splashing.	
Wear suitable working clothes.	
Use suitable eye protection.	
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	216,188 mg/m³
Risk Characterization Ratio (RCR)	0,697381
Assessment method	Qualitative assessment
	Worker - dermal
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

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22. Short title of exposure scenario

Use in Personal care products
ERC8a; PC28, PC39

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	PC28: Perfumes, Fragrances. In accordance to the Article 14 (5b) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed for end uses in cosmetic products within the scope of Directive EC 1223/2009.
Operational conditions	
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

Contributing exposure scenario	
Use descriptors covered	PC39: Cosmetics, personal care products. In accordance to the Article 14 (5b) of the REACh Regulation (EC) No 1907/2006, exposure estimation and risk characterisation needs not to be performed for end uses in cosmetic products within the scope of Directive EC 1223/2009.
Operational conditions	
Vapour pressure of the substance during use	1600 Pa
Process temperature	20 °C

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