Exposure Scenario, 22/11/2019

Substance identity

Chemical name 1-Metossi-2-propanolo
CAS No. 107-98-2
INDEX No. 603-064-00-3
EINECS No. 203-539-1

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1. ES 1 Use at industrial site; Coatings and paints, thinners, paint removers (PC9a); Solvent-based process

1.1 Title Section

Exposure Scenario name Use in coatings
Date - Version 21/11/2019 - 1.0
Life Cycle Stage Use at industrial site
Main user group Industrial uses
Sector(s) of use Industrial uses (SU3)
Product Categories Coatings and paints, thinners, paint removers (PC9a)

Environment Contributing Scenario

CS1 Solvent-based process ERC4

Worker Contributing Scenario

CS2 Use in semi-closed process with opportunity for exposure PROC4
CS3 Spraying PROC7
CS4 Material transfers - Refilling - Discharging PROC8a
CS5 Material transfers - Refilling - Discharging - Dedicated facility PROC8b
CS6 Rolling, Brushing PROC10
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1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)

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

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Additional conditions environment Non-hydrophobic

Amount used, frequency and duration of use (or from service life)

Amounts used: Daily amount per site = 105087 kg/day

Maximum allowable site tonnage (MSafe): 105087 kg

Release type: Continuous release

Emission days: 300 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Prevent discharge of undissolved substance to or recover from onsite wastewater. Air - minimum efficiency of: = 70 %
Water - minimum efficiency of: = 87.3 %

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 87.3 %

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:

Bund storage facilities to prevent soil and water pollution in the event of spillage. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level continual releases.

1.2. CS2: Worker Contributing Scenario: Use in semi-closed process with opportunity for exposure (PROC4)

Process Categories Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Ensure operatives are trained to minimise exposures.

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Indoor use

Industrial use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

1.2. CS3: Worker Contributing Scenario: Spraying (PROC7)

Process Categories Industrial spraying (PROC7)

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Carry out in a vented booth or extracted enclosure.

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Indoor use

Industrial use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

1.2. CS4: Worker Contributing Scenario: Material transfers - Refilling - Discharging (PROC8a)

Process Categories

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

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Indoor use

Industrial use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

1.2. CS5: Worker Contributing Scenario: Material transfers - Refilling - Discharging - Dedicated facility (PROC8b)

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

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Indoor use

Industrial use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

1.2. CS6: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Indoor use
Industrial use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

1.2. CS7: Worker Contributing Scenario: Dipping, immersion and pouring (PROC13)

Process Categories Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product: Liquid
Vapour pressure: <= 10000 Pa
Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Indoor use
Industrial use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)

Release route	Release rate	Release estimation method
Air	0.27	N.A.
Water	0.02	N.A.
Soil	0.0001	N.A.

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
Freshwater	1.11 mg/L	EUSES	0.135
Marine water	0.112 mg/L	EUSES	0.136

Freshwater sediment	7.05 mg/kg	EUSES	0.135
Marine sediment	0.709 mg/kg	EUSES	0.136
soil	0.469 mg/kg	EUSES	0.102

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

1.3. CS2: Worker Contributing Scenario: Use in semi-closed process with opportunity for exposure (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	75.08 mg/m³	ECETOC TRA worker v2.0	0.2
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

1.3. CS3: Worker Contributing Scenario: Spraying (PROC7)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	281.56 mg/m³	ECETOC TRA worker v2.0	0.76
dermal, systemic, long-term	8.57 mg/kg bw/day	ECETOC TRA worker v2.0	0.05

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

1.3. CS4: Worker Contributing Scenario: Material transfers - Refilling - Discharging (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	187.71 mg/m³	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.07

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

1.3. CS5: Worker Contributing Scenario: Material transfers - Refilling - Discharging - Dedicated facility (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	187.71 mg/m³	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

1.3. CS6: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	187.71 mg/m³	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	5.49 mg/kg bw/day	ECETOC TRA worker v2.0	0.03

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

1.3. CS7: Worker Contributing Scenario: Dipping, immersion and pouring (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	187.71 mg/m³	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	13.71 mg/kg	ECETOC TRA worker v2.0	0.07

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

Guidance to check compliance with the exposure scenario:
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

2. ES 2 Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a); Solvent-based process

2.1 Title Section

Exposure Scenario name Professional application of coatings and inks
Date - Version 21/11/2019 - 1.0
Life Cycle Stage Widespread use by professional workers

Main user group Professional uses
Sector(s) of use Industrial uses (SU3)
Product Categories Coatings and paints, thinners, paint removers (PC9a)

Environment Contributing Scenario
CS1 Solvent-based process ERC8a

Worker Contributing Scenario
CS2 Use in semi-closed process with opportunity for exposure PROC4
CS3 Mixing operations - Batch process PROC5
CS4 Material transfers - Refilling - Discharging PROC8a
CS5 Material transfers - Refilling - Discharging - Dedicated facility PROC8b
CS6 Rolling, Brushing PROC10
CS7 Spraying PROC11
CS8 Dipping, immersion and pouring PROC13
CS9 Laboratory activities PROC15

2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a)
Environmental release categories
Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics
Physical form of product: Liquid
Vapour pressure: <= 10000 Pa
Concentration of substance in product: Covers percentage substance in the product up to 100 %.
Additional conditions environment Non-hydrophobic

Amount used, frequency and duration of use (or from service life)
Amounts used:
Daily amount per site 10508 kg
Maximum allowable site tonnage (MSafe): 10508 kg/day
Release type: Continuous release
Emission days: 300 days per year

Technical and organisational conditions and measures
Control measures to prevent releases
Prevent discharge of undissolved substance to or recover from onsite wastewater. Water - minimum efficiency of: = 87.3 %

Conditions and measures related to sewage treatment plant
STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 87.3 %

Conditions and measures related to treatment of waste (including article waste)
Waste treatment
External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure
Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Covers indoor and outdoor use

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.
Additional Good Practice Advice:

Bund storage facilities to prevent soil and water pollution in the event of spillage. Site should have a spill plan to ensure that adequate
safeguards are in place to minimize the impact of episodic releases. A leak prevention plan is needed to prevent low level
continual releases.

2.2. CS2: Worker Contributing Scenario: Use in semi-closed process with opportunity for exposure (PROC4)

Process Categories Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS3: Worker Contributing Scenario: Mixing operations - Batch process (PROC5)

Process Categories Mixing or blending in batch processes (PROC5)

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS4: Worker Contributing Scenario: Material transfers - Refilling - Discharging (PROC8a)

Process Categories

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

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS5: Worker Contributing Scenario: Material transfers - Refilling - Discharging - Dedicated facility (PROC8b)

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

Product (article) characteristics

Physical form of product: Liquid

Vapour pressure: <= 10000 Pa

Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

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

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health
Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS6: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product: Liquid
Vapour pressure: <= 10000 Pa
Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Ensure operation is undertaken outdoors.

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

Personal protection
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health
Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS7: Worker Contributing Scenario: Spraying (PROC11)

Process Categories Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product: Liquid
Vapour pressure: <= 10000 Pa
Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures
Carry out in a vented booth or extracted enclosure.

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

Personal protection
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin. Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS8: Worker Contributing Scenario: Dipping, immersion and pouring (PROC13)

Process Categories Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Physical form of product: Liquid
Vapour pressure: <= 10000 Pa
Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

2.2. CS9: Worker Contributing Scenario: Laboratory activities (PROC15)

Process Categories Use as laboratory reagent (PROC15)

Product (article) characteristics

Physical form of product: Liquid
Vapour pressure: <= 10000 Pa
Concentration of substance in product: Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional conditions human health

Assumes a good basic standard of occupational hygiene is implemented.

2.3 Exposure estimation and reference to its source

2.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a)

Release route	Release rate	Release estimation method
Air	0.9	N.A.
Water	0.02	N.A.
Soil	0.001	N.A.

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
Freshwater	1.11 mg/L	EUSES	0.135
Marine water	0.112 mg/L	EUSES	0.136
Freshwater sediment	7.05 mg/kg	EUSES	0.135
Marine sediment	0.709 mg/kg	EUSES	0.136
soil	0.469 mg/kg	EUSES	0.102

Additional information on exposure estimation:

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS2: Worker Contributing Scenario: Use in semi-closed process with opportunity for exposure (PROC4)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	187.71 mg/m³	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

Additional information on exposure estimation:

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS3: Worker Contributing Scenario: Mixing operations - Batch process (PROC5)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	262.79 mg/m³	ECETOC TRA worker v2.0	0.71
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.07

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS4: Worker Contributing Scenario: Material transfers - Refilling - Discharging (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	262.70 mg/m³	ECETOC TRA worker v2.0	0.71
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.07

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS5: Worker Contributing Scenario: Material transfers - Refilling - Discharging - Dedicated facility (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	187.71 mg/m³	ECETOC TRA worker v2.0	0.51
dermal, systemic, long-term	6.86 mg/kg bw/day	ECETOC TRA worker v2.0	0.04

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS6: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	5.49 mg/m³	ECETOC TRA worker v2.0	0.03
dermal, systemic, long-term	262.79 mg/kg bw/day	ECETOC TRA worker v2.0	0.71

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS7: Worker Contributing Scenario: Spraying (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	131.4 mg/m³	ECETOC TRA worker v2.0	0.36
dermal, systemic, long-term	21.43 mg/kg bw/day	ECETOC TRA worker v2.0	0.12

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS8: Worker Contributing Scenario: Dipping, immersion and pouring (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	262.79 mg/m³	ECETOC TRA worker v2.0	0.71
dermal, systemic, long-term	13.71 mg/kg bw/day	ECETOC TRA worker v2.0	0.07

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

2.3. CS9: Worker Contributing Scenario: Laboratory activities (PROC15)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	37.54 mg/m³	ECETOC TRA worker v2.0	0.1
dermal, systemic, long-term	0.36 mg/kg bw/day	ECETOC TRA worker v2.0	0.002

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Guidance to check compliance with the exposure scenario:
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

3. ES 3 Consumer use; Coatings and paints, thinners, paint removers

(PC9a); Solvent-based process

3.1 Title Section

Exposure Scenario name Consumer application of coatings
Date - Version 21/11/2019 - 1.0
Life Cycle Stage Consumer use **Main user group** Consumer uses **Sector(s) of use** Consumer uses (SU21)
Product Categories Coatings and paints, thinners, paint removers (PC9a)

Environment Contributing Scenario

CS1 Solvent-based process ERC8a

Consumer Contributing Scenario

CS2 Consumer PC9a

3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a)

Environmental release categories

Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics

Physical form of product: Liquid
Concentration of substance in product: Covers concentrations up to 10 %
Additional conditions environment Non-hydrophobic Water - minimum efficiency of: = 87.5 %

Amount used, frequency and duration of use (or from service life)

Amounts used: Daily amount per site = 21.02 kg/day
Maximum allowable site tonnage (MSafe): 21.02 kg/day
Release type: Continuous release
Emission days: 300 days per year

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Covers indoor and outdoor use

3.2. CS2: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Physical form of product: Liquid
Vapour pressure: > 10 Pa
Concentration of substance in product: Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used: For each use event, covers use amounts up to 0.5 kg
Duration: For each use, avoid using for more than 1.1 h

Other conditions affecting consumers exposure

Covers indoor and outdoor use
Room size: Covers use in room size of 20 m^3

Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

3.3 Exposure estimation and reference to its source

3.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a)

Release route	Release rate	Release estimation method
Air	0.8	N.A.
Water	0.15	N.A.
Soil	0.01	N.A.

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
Freshwater	0.029 mg/L	EUSES	0.003
Marine water	0.12 mg/L	EUSES	0.003
Freshwater sediment	0.003 mg/kg	EUSES	0.003
Marine sediment	0.0157 mg/kg	EUSES	0.003
soil	0.028 mg/kg	EUSES	0.006

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

3.2. CS2: Consumer Contributing Scenario: Consumer (PC9a)

Additional information on exposure estimation:
Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented.

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

Guidance to check compliance with the exposure scenario:
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.