



SAFETY DATA SHEET PROPIONIC ACID ...%

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

1.1. Product identifier

Product name	PROPIONIC ACID ...%
Product number	712
Synonyms; trade names	PROPIONIC ACID F, PROPIONIC ACID, PROPIONIC ACID 100%, PROPIONIC ACID 100% BASF
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EU index number	607-089-00-0
EC number	201-176-3

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

Identified uses	Lab Reagent Chemical Intermediate Polymers Food / Feed additive Chemicals used in the synthesis and / or formulation of industrial products For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	712

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335
Environmental hazards	Not Classified

2.2. Label elements

EC number	201-176-3
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PROPIONIC ACID ...%

Hazard pictograms



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapour/ spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	PROPIONIC ACID ...%
REACH registration number	01-2119486971-24-XXXX
EU index number	607-089-00-0
CAS number	79-09-4
EC number	201-176-3
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

Inhalation	May cause respiratory irritation.
Skin contact	Corrosive to skin.

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Eye contact Corrosive. Small amounts may cause serious damage.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Oxides of carbon. Nitrogen.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapours and spray/mists. Provide adequate ventilation. Eliminate all sources of ignition. Static electricity and formation of sparks must be prevented.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures not exceeding 30°C.

Storage class Corrosive storage. Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

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SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 10 ppm 31 mg/m³

Short-term exposure limit (15-minute): WEL 15 ppm 46 mg/m³

WEL = Workplace Exposure Limit.

DNEL

Industry - Inhalation; Short term systemic effects: 62 mg/m³

Industry - Inhalation; Long term systemic effects: 31 mg/m³

Workers - Dermal; Long term systemic effects: 20.9 mg/kg

Industry - Inhalation; Long term local effects: 31 mg/m³

Industry - Dermal; Long term systemic effects: 132 mg/kg/day

Consumer - Inhalation; Long term systemic effects, local effects: 3.7 mg/m³

Consumer - Dermal; Long term systemic effects: 10.5 mg/kg

Consumer - Oral; Long term systemic effects: 10.5 mg/kg

PNEC

- Fresh water; 0.5 mg/l

- marine water; 0.05 mg/l

- Intermittent release; 5 mg/l

- Sediment (Freshwater); 1.86 mg/kg

- Sediment (Marinewater); 0.186 mg/kg

- Soil; 0.1258 mg/kg

- STP; 5 mg/l

8.2. Exposure controls

Protective equipment



Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The selected gloves should have a breakthrough time of at least 8 hours. Butyl rubber. Protective gloves should have a minimum thickness of 0.7 mm. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear rubber footwear. Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Gas filter, type A2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Liquid.

Colour

Colourless.

Odour

Pungent.

Odour threshold

No information available.

PROPIONIC ACID ...%

pH	pH (diluted solution): 2.5 @ 10%
Melting point	-20°C
Initial boiling point and range	140.7 - 141.6°C @ 760 mm Hg
Flash point	50.5°C
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	5 mbar @ 20°C
Vapour density	No information available.
Relative density	0.992 @ 20°C
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	log Pow: 0.25
Auto-ignition temperature	485°C
Decomposition Temperature	No information available.
Viscosity	1.102 mPa s @ 25°C
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	Not available.

9.2. Other information

Refractive index	No information available.
Particle size	No information available.
Molecular weight	74.08
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reactions with the following materials may generate heat: Strong alkalis.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time. Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong alkalis. Alkali metals.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 3,455.0

Species Rat

ATE oral (mg/kg) 3,455.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 3,235.0

Species Rat

ATE dermal (mg/kg) 3,235.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 19.7

Species Rat

ATE inhalation (vapours mg/l) 19.7

Skin corrosion/irritation

Animal data Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Causes severe burns.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity There is no evidence that the product can cause cancer.

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Reproductive toxicity

Reproductive toxicity - fertility This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation May cause respiratory irritation.

Ingestion Swallowing concentrated chemical may cause severe internal injury. Causes burns.

Skin contact Causes burns.

Eye contact Causes burns.

SECTION 12: Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: > 10000 mg/l, *Leuciscus idus* (Golden orfe)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 500 mg/l, *Daphnia magna*

Acute toxicity - aquatic plants EC₅₀, 72 hours: > 500 mg/l, *Scenedesmus subspicatus*

Acute toxicity - microorganisms EC20, 30 minutes: 500 - 1040 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The substance is readily biodegradable.

Biodegradation - Degradation (%) 74: 30 days

Biological oxygen demand 1300 mg O₂/l

Chemical oxygen demand 1520 mg O₂/l

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Pow: 0.25

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

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

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12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty.

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

SECTION 14: Transport information

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

14.1. UN number

UN No. (ADR/RID) 3463

UN No. (IMDG) 3463

UN No. (ICAO) 3463

UN No. (ADN) 3463

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PROPIONIC ACID

Proper shipping name (IMDG) PROPIONIC ACID

Proper shipping name (ICAO) PROPIONIC ACID

Proper shipping name (ADN) PROPIONIC ACID

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID subsidiary risk 3

ADR/RID classification code CF1

ADR/RID label 8

IMDG class 8

IMDG subsidiary risk 3

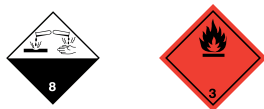
ICAO class/division 8

ICAO subsidiary risk 3

ADN class 8

ADN subsidiary risk 3

Transport labels



14.4. Packing group

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ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

IMDG Code segregation group 1. Acids

EmS F-E, S-C

ADR transport category 2

Emergency Action Code •2W

Hazard Identification Number (ADR/RID) 83

Tunnel restriction code (D/E)

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.
This product may impact SEVESO storage regulations.

Seveso Directive - Control of major accident hazards P5c

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

SECTION 16: Other information

PROPIONIC ACID ...%

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

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

Key literature references and sources for data

Supplier's information.

Revision comments

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

Revision date

26/08/2020

Version number

2.002

Supersedes date

21/01/2020

SDS number

712

PROPIONIC ACID ...%

SDS status

Approved.

Hazard statements in full

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Signature

Jitendra Panchal



Exposure scenario

Charging and discharging of substances and mixtures - Industrial

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Charging and discharging of substances and mixtures - Industrial
Main sector	SU3 Industrial uses

Environment

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

Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Charging and discharging of substances and mixtures - Industrial

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.

Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Charging and discharging of substances and mixtures - Industrial

Exposure

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

Worker - dermal, long-term - systemic: Exposure 2.7429 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.131237

Worker - inhalation, long-term - systemic: Exposure 21.6067 mg/m³, DNEL 73 mg/m³, RCR 0.295982

Worker - inhalation, long-term - local: Exposure 21.6067 mg/m³, DNEL 31 mg/m³, RCR 0.696989

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

Worker - dermal, long-term - systemic: Exposure 2.7429 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.131237

Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m³, DNEL 73 mg/m³, RCR 0.211416

Worker - inhalation, long-term - local: Exposure 15.4333 mg/m³, DNEL 31 mg/m³, RCR 0.497849

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

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.065619

Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m³, DNEL 73 mg/m³, RCR 0.211416

Worker - inhalation, long-term - local: Exposure 15.4333 mg/m³, DNEL 31 mg/m³, RCR 0.497849

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

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



Exposure scenario

Charging and discharging of substances and mixtures - Professional

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Charging and discharging of substances and mixtures - Professional
Main sector	SU22 Professional uses

Environment

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

Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Charging and discharging of substances and mixtures - Professional

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.

Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Charging and discharging of substances and mixtures - Professional

Exposure

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

Worker - dermal, long-term - systemic: Exposure 2.7429 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.131237

Worker - inhalation, long-term - systemic: Exposure 23.15 mg/m³, DNEL 73 mg/m³, RCR 0.317123

Worker - inhalation, long-term - local: Exposure 23.15 mg/m³, DNEL 31 mg/m³, RCR 0.746774

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

Worker - dermal, long-term - systemic: Exposure 2.7429 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.131237

Worker - inhalation, long-term - systemic: Exposure 21.6067 mg/m³, DNEL 73 mg/m³, RCR 0.295982

Worker - inhalation, long-term - local: Exposure 21.6067 mg/m³, DNEL 31 mg/m³, RCR 0.696989

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

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.065619

Worker - inhalation, long-term - systemic: Exposure 21.6067 mg/m³, DNEL 73 mg/m³, RCR 0.295982

Worker - inhalation, long-term - local: Exposure 21.6067 mg/m³, DNEL 31 mg/m³, RCR 0.696989

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

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



Exposure scenario Formulation

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Formulation
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC2 Formulation into mixture
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
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Formulation

Vapour pressure 39 Pa @ 20°C

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.

Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Formulation

Exposure

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

Worker - dermal, long-term - systemic: Exposure 0.0343 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.00164

Worker - inhalation, long-term - systemic: Exposure 0.0309 mg/m³, DNEL 73 mg/m³, RCR 0.000423

Worker - inhalation, long-term - local: Exposure 0.0309 mg/m³, DNEL 31 mg/m³, RCR 0.000996

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

Worker - dermal, long-term - systemic: Exposure 0.2743 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.013124

Worker - inhalation, long-term - systemic: Exposure 3.0867 mg/m³, DNEL 73 mg/m³, RCR 0.042283

Worker - inhalation, long-term - local: Exposure 3.0867 mg/m³, DNEL 31 mg/m³, RCR 0.09957

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

Worker - dermal, long-term - systemic: Exposure 0.1371 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.006562

Worker - inhalation, long-term - systemic: Exposure 9.26 mg/m³, DNEL 73 mg/m³, RCR 0.126849

Worker - inhalation, long-term - local: Exposure 9.26 mg/m³, DNEL 31 mg/m³, RCR 0.29871

PROC4 Chemical production where opportunity for exposure arises

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.065619

Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m³, DNEL 73 mg/m³, RCR 0.211416

Worker - inhalation, long-term - local: Exposure 15.4333 mg/m³, DNEL 31 mg/m³, RCR 0.497849

PROC5 Mixing or blending in batch processes

Worker - dermal, long-term - systemic: Exposure 2.7429 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.131237

Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m³, DNEL 73 mg/m³, RCR 0.211416

Worker - inhalation, long-term - local: Exposure 15.4333 mg/m³, DNEL 31 mg/m³, RCR 0.497849

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

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



Exposure scenario Use in laboratories - Industrial

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

Environment

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

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

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Use in laboratories - Industrial

Setting	Indoor.
Temperature	Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.
Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Exposure	PROC15 Use as laboratory reagent. Worker - dermal, long-term - systemic: Exposure 0.0686 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.003281 Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m ³ , DNEL 73 mg/m ³ , RCR 0.211416 Worker - inhalation, long-term - local: Exposure 15.4333 mg/m ³ , DNEL 31 mg/m ³ , RCR 0.497849

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

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



Exposure scenario Use in Laboratories - Professional

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

Environment

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

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

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Use in Laboratories - Professional

Setting	Indoor.
Temperature	Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.
Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Exposure	PROC15 Use as laboratory reagent. Worker - dermal, long-term - systemic: Exposure 0.0686 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.003281 Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m ³ , DNEL 73 mg/m ³ , RCR 0.211416 Worker - inhalation, long-term - local: Exposure 15.4333 mg/m ³ , DNEL 31 mg/m ³ , RCR 0.497849

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

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



Exposure scenario Use as a Process Chemical

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a Process Chemical
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C

Use as a Process Chemical

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.

Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as a Process Chemical

Exposure

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

Worker - dermal, long-term - systemic: Exposure 0.0343 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.00164

Worker - inhalation, long-term - systemic: Exposure 0.0309 mg/m³, DNEL 73 mg/m³, RCR 0.000423

Worker - inhalation, long-term - local: Exposure 0.0309 mg/m³, DNEL 31 mg/m³, RCR 0.000996

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

Worker - dermal, long-term - systemic: Exposure 0.2743 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.013124

Worker - inhalation, long-term - systemic: Exposure 3.0867 mg/m³, DNEL 73 mg/m³, RCR 0.042283

Worker - inhalation, long-term - local: Exposure 3.0867 mg/m³, DNEL 31 mg/m³, RCR 0.09957

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

Worker - dermal, long-term - systemic: Exposure 0.1371 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.006562

Worker - inhalation, long-term - systemic: Exposure 9.26 mg/m³, DNEL 73 mg/m³, RCR 0.126849

Worker - inhalation, long-term - local: Exposure 9.26 mg/m³, DNEL 31 mg/m³, RCR 0.29871

PROC4 Chemical production where opportunity for exposure arises

Worker - dermal, long-term - systemic: Exposure 1.3714 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.065619

Worker - inhalation, long-term - systemic: Exposure 15.4333 mg/m³, DNEL 73 mg/m³, RCR 0.211416

Worker - inhalation, long-term - local: Exposure 15.4333 mg/m³, DNEL 31 mg/m³, RCR 0.497849

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

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



Exposure scenario Use as an intermediate

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as an intermediate
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC6a Use of intermediate
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C

Use as an intermediate

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.

Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as an intermediate

Exposure

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

Worker - dermal, long-term - systemic: Exposure 0.0343 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.00164

Worker - inhalation, long-term - systemic: Exposure 0.0309 mg/m³, DNEL 73 mg/m³, RCR 0.000423

Worker - inhalation, long-term - local: Exposure 0.0309 mg/m³, DNEL 31 mg/m³, RCR 0.000996

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

Worker - dermal, long-term - systemic: Exposure 0.2743 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.013124

Worker - inhalation, long-term - systemic: Exposure 3.0867 mg/m³, DNEL 73 mg/m³, RCR 0.042283

Worker - inhalation, long-term - local: Exposure 3.0867 mg/m³, DNEL 31 mg/m³, RCR 0.09957

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

Worker - dermal, long-term - systemic: Exposure 0.1371 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.006562

Worker - inhalation, long-term - systemic: Exposure 9.26 mg/m³, DNEL 73 mg/m³, RCR 0.126849

Worker - inhalation, long-term - local: Exposure 9.26 mg/m³, DNEL 31 mg/m³, RCR 0.29871

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

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



Exposure scenario Animal nutrition

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Animal nutrition
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
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Worker

Process category	PROC5 Mixing or blending in batch processes PROC11 Non industrial spraying
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Animal nutrition

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

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Covers use at ambient temperatures.

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

Technical protective measures	Ensure doors and windows are opened. Regular inspection and maintenance of equipment and machines. PROC11 Non industrial spraying Ensure that the task is being carried out outside the breathing zone of a worker (distance head-product greater than 1m). Ensure that the task is not carried out by more than one worker simultaneously. Limit the substance in product to 10%.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wear suitable gloves tested to EN374.
Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated PROC11 Non industrial spraying Used Stoffenmanager model.
Exposure	PROC5 Mixing or blending in batch processes Worker - dermal, long-term - systemic: Exposure 2.7429 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.131237 Worker - inhalation, long-term - systemic: Exposure 21.6067 mg/m ³ , DNEL 73 mg/m ³ , RCR 0.295982 Worker - inhalation, long-term - local: Exposure 21.6067 mg/m ³ , DNEL 31 mg/m ³ , RCR 0.696989 PROC11 Non industrial spraying Worker - dermal, long-term - systemic: Exposure 1.0714 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.051265 Worker - inhalation, long-term - systemic: Exposure 28.52 mg/m ³ , DNEL 73 mg/m ³ , RCR 0.390685 Worker - inhalation, long-term - local: Exposure 28.52 mg/m ³ , DNEL 31 mg/m ³ , RCR 0.92

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

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



Exposure scenario

Use as co-formulant in Plant Protection Products

Identification

Product name	Propionic Acid
REACH registration number	01-2119486971-24-XXXX
CAS number	79-09-4
EC number	201-176-3
EU index number	607-089-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as co-formulant in Plant Protection Products
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
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Worker

Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC11 Non industrial spraying
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

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

Product characteristics

Physical state	Liquid
Vapour pressure	39 Pa @ 20°C
Concentration details	Covers concentrations up to 100 %.

Use as co-formulant in Plant Protection Products

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Outdoor.

Temperature Covers use at ambient temperatures.

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

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves tested to EN374.

Use suitable respiratory protection if ventilation is inadequate.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as co-formulant in Plant Protection Products

Exposure

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

Spraying/fogging by machine application

Worker - dermal, long-term - systemic: Exposure 0.274 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.01311

Worker - inhalation, long-term - systemic: Exposure 0.0005 mg/m³, DNEL 73 mg/m³, RCR 0.000007

Worker - inhalation, long-term - local: Exposure 0.0005 mg/m³, DNEL 31 mg/m³, RCR 0.000016

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

Spraying/fogging by manual application

Worker - dermal, long-term - systemic: Exposure 2.93 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.140191

Worker - inhalation, long-term - systemic: Exposure 0.005 mg/m³, DNEL 73 mg/m³, RCR 0.000068

Worker - inhalation, long-term - local: Exposure 0.005 mg/m³, DNEL 31 mg/m³, RCR 0.000161

PROC11 Non industrial spraying

Spraying/fogging by machine application

Worker - dermal, long-term - systemic: Exposure 1.31 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.062679

Worker - inhalation, long-term - systemic: Exposure 0.014 mg/m³, DNEL 73 mg/m³, RCR 0.000192

Worker - inhalation, long-term - local: Exposure 0.014 mg/m³, DNEL 31 mg/m³, RCR 0.000452

PROC11 Non industrial spraying

Spraying/fogging by manual application

Worker - dermal, long-term - systemic: Exposure 0.577 mg/kg/day, DNEL 20.9 mg/kg/day, RCR 0.027608

Worker - inhalation, long-term - systemic: Exposure 3.5 mg/m³, DNEL 73 mg/m³, RCR 0.047945

Worker - inhalation, long-term - local: Exposure 3.5 mg/m³, DNEL 31 mg/m³, RCR 0.112903

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

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