

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

1.1. Product identifier

Product identification: Hydrogen chloride in 2-propanol 6N/24% Trade name: Hydrogen chloride in 2-propanol 6N

UFI: FXS2-7Q3A-120X-YM9J

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

Recommended use:

Non aqueous acid solvent

1.3. Details of the supplier of the safety data sheet

Company:

Gases: Research Innovation & Technology SLU.

C/ Consell de Cent, 419 Principal 1 y 2 - 08009 (Barcelona) Tel: 93/272.14.00 Fax: 93/215.38.08

Competent person responsible for the safety data sheet:

gmartin@grit.es

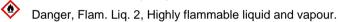
1.4. Emergency telephone number

+ 34 630 215 910 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)



Warning, Acute Tox. 4, Harmful if inhaled.

Warning, Met. Corr. 1, May be corrosive to metals.

Danger, Skin Corr. 1A, Causes severe skin burns and eye damage.

Danger, Eye Dam. 1, Causes serious eye damage.

Warning, STOT SE 3, May cause drowsiness or dizziness.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:







Danger

Hazard statements:

H225 Highly flammable liquid and vapour.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

H336 May cause drowsiness or dizziness.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe vapours.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

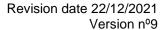
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P403+P235 Store in a well-ventilated place. Keep cool.

Special Provisions:





None

Contains

hydrogen chloride

propan-2-ol; isopropyl alcohol; isopropanol

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number		Cla	ssification
>= 65% - < 80%	propan-2-ol; isopropyl alcohol; isopropanol	EC:	603-117-00-0 67-63-0 200-661-7 01-2119457558-25		2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319
		INLACITIO	01-2113-37330-23	>	3.8/3 STOT SE 3 H336
>= 20% - < 25%	hydrogen chloride	EC:	017-002-00-2 7647-01-0 231-595-7 01-2119484862-27		2.5 Press. Gas H280 3.2/1A Skin Corr. 1A H314
		REACTING.	01-2119404002-21	EUI	3.1/3/Inhal Acute Tox. 3 H331 H071

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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

None

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Extinguishing media which must not be used for safety reasons:

DO NOT use a direct water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.



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5.3. Advice for firefighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Storage at temperature <10°C is recommended.

Always keep in a well ventilated place.

Keep away from unquarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair hydrogen chloride - CAS: 7647-01-0

EU - TWA(8h): 8 mg/m3, 5 ppm - STEL: 15 mg/m3, 10 ppm

ACGIH - STEL: Ceiling 2 ppm - Notes: A4 - URT irr

DNEL Exposure Limit Values

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

Worker Professional: 500 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term,

systemic effects

Worker Professional: 888 mg/kg bw/day - Consumer: 319 mg/kg bw/day - Exposure: Human

Dermal - Frequency: Long Term, systemic effects

Consumer: 26 mg/kg bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

Target: Fresh Water - Value: 140.9 mg/l Target: Marine water - Value: 140.9 mg/l



Target: Freshwater sediments - Value: 552 mg/kg Target: Marine water sediments - Value: 552 mg/kg Target: Soil (agricultural) - Value: 28 mg/kg

8.2. Exposure controls

Eye protection:

Face protection umbrella. Face protection shield.

Protection for skin:

Chemical protection clothing.

Protection for hands:

Rubber nitrilo: thickness> 0.45 mm Time of perforation> 480 min (EN 374)

Respiratory protection:

Dispose of self-contained breathing apparatus for use in an emergency.

Users of self-contained breathing apparatus should be trained.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Appearance and colour:	Colorless or pale yellow transparent liquid		
Odour:	pungent		
Odour threshold:	N.A.		
pH:			
Melting point / freezing point:	N.A.		
Initial boiling point and boiling range:	82 -82 °C (IPA)		
Flash point:	12 °C (IPA)		
Evaporation rate:	N.A.		
Solid/gas flammability:	N.A.		
Upper/lower flammability or explosive	2-12% vol (IPA)		
limits:			
Vapour pressure:	N.A.		
Vapour density:	$(Air = 1)(20^{\circ}C)2.07 (IPA)$		
Relative density:	0.91 kg/L		
Solubility in water:	N.A.		
Solubility in oil:	N.A.		
Partition coefficient (n-octanol/water):	N.A.		
Auto-ignition temperature:	399 °C (IPA)		
Decomposition temperature:	N.A.		
Viscosity:	N.A.		
Explosive properties:	N.A.		
Oxidizing properties:	N.A.		

9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	N.A.	1	
Fat Solubility:	N.A.		
Conductivity:	N.A.		
Substance Groups relevant properties	N.A.	-	

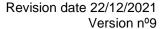
SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable, ignition hazard

10.2. Chemical stability

Stable under normal conditions





10.3. Possibility of hazardous reactions

None

10.4. Conditions to avoid

Alkalis and alkaline earth metals - aluminum powder, zinc, etc.

10.5. Incompatible materials

Strong bases.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the product:

Hydrogen chloride in 2-propanol 6N

a) acute toxicity

The product is classified: Acute Tox. 4 H332

ATEmix - Inhalation (Mist) 2,083 mg/l

b) skin corrosion/irritation

The product is classified: Skin Corr. 1A H314

c) serious eye damage/irritation

The product is classified: Eye Dam. 1 H318

d) respiratory or skin sensitisation

Not classified

Based on available data, the classification criteria are not met

e) germ cell mutagenicity

Not classified

Based on available data, the classification criteria are not met

f) carcinogenicity

Not classified

Based on available data, the classification criteria are not met

g) reproductive toxicity

Not classified

Based on available data, the classification criteria are not met

h) STOT-single exposure

The product is classified: STOT SE 3 H336

i) STOT-repeated exposure

Not classified

Based on available data, the classification criteria are not met

j) aspiration hazard

Not classified

Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

a) acute toxicity:

Test: LD50 - Route: Skin - Species: Rabbit = 12800 mg/kg - Source: RETECS

Test: LD50 - Route: Oral - Species: Rat = 5045 mg/kg - Source: RETECS

Test: LC50 - Route: Inhalation - Species: Rat = 46.5 mg/l - Duration: 4h - Source: FDS externa

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Route: Skin Negative - Source: IUCLID

e) germ cell mutagenicity:

Test: Mutagenesis Negative - Source: IUCLID

f) carcinogenicity:

Test: Carcinogenicity Negative - Source: IUCLID

g) reproductive toxicity:

Test: Reproductive Toxicity Negative - Source: IUCLID

hydrogen chloride - CAS: 7647-01-0

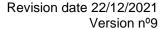
a) acute toxicity:

Test: LC50 - Route: Inhalation Vapour - Species: Rat 2810 mg/kg - Duration: 1h

Test: LD50 - Route: Oral - Species: Rat 915 mg/kg

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin Positive - Notes: extremely corrosive and destructive to tissues





SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment. <VAR,1,0,1300>

Hydrogen chloride in 2-propanol 6N

Not classified for environmental hazards

Based on available data, the classification criteria are not met

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 1400 mg/l - Duration h: 96 Endpoint: EC50 - Species: Daphnia = 13299 mg/l - Duration h: 72 Endpoint: Cl50 - Species: Algae = 1000 mg/l - Duration h: 72

12.2. Persistence and degradability

None

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

Biodegradability: Readily biodegradable - Test: Biochemical oxigen demand - %: 1.19 Biodegradability: Readily biodegradable - Test: OECD 301 - Duration: 14 d - %: 96

12.3. Bioaccumulative potential

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentrantion factor 3

Bioaccumulation: Not bioaccumulative - Test: Pow- Log 0.83

hydrogen chloride - CAS: 7647-01-0

Bioaccumulation: Not bioaccumulative

12.4. Mobility in soil

propan-2-ol; isopropyl alcohol; isopropanol - CAS: 67-63-0

Mobility in soil: Mobile - Test: Koc 1.5

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information





14.1. UN number

 ADR-UN Number:
 2924

 IATA-UN Number:
 2924

 IMDG-UN Number:
 2924

14.2. UN proper shipping name

ADR-Shipping Name: FLAMMABLE LIQUID, CORROSIVE N.O.S.(hydrogen chloride,

propan-2-ol; isopropyl alcohol; isopropanol)

IATA-Shipping Name: FLAMMABLE LIQUID, CORROSIVE N.O.S.(hydrogen chloride,

propan-2-ol; isopropyl alcohol; isopropanol)

IMDG-Shipping Name: FLAMMABLE LIQUID, CORROSIVE N.O.S.(hydrogen chloride,

propan-2-ol; isopropyl alcohol; isopropanol)

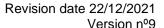
14.3. Transport hazard class(es)

ADR-Class: 3

ADR - Hazard identification number: 338 IATA-Class: 3 IATA-Label: 3 + 8 IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: II





IATA-Packing group: II IMDG-Packing group: II

14.5. Environmental hazards

ADR-Enviromental Pollutant: No IMDG-Marine pollutant: No 14.6. Special precautions for user

ADR-Subsidiary hazards: 8 ADR-S.P.: 274

ADR-Transport category (Tunnel restriction code): 2 (D/E)

IATA-Passenger Aircraft: 352
IATA-Subsidiary hazards: 8
IATA-Cargo Aircraft: 363
IATA-S.P.: A3 A803
IATA-ERG: 3CH
IMDG-EmS: F-E , S-C

IMDG-Subsidiary hazards: 8

IMDG-Stowage and handling: Category B SW2

IMDG-Segregation:

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 2015/830

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP) Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restriction 40

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

Product belongs to category: P5c

15.2. Chemical safety assessment

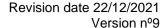
Chemical Safety Assessment has been carried out for the substances that compounds the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.





H336 May cause drowsiness or dizziness.

H280 Contains gas under pressure; may explode if heated.

H314 Causes severe skin burns and eye damage.

H331 Toxic if inhaled.

EUH071 Corrosive to the respiratory tract

Hazard class and hazard category	Code	Description
Press. Gas	2.5	Gases under pressure
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Acute Tox. 3	3.1/3/Inhal	Acute toxicity (inhalation), Category 3
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 2, H225	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Corr. 1A, H314	Calculation method
Eye Dam. 1, H318	Calculation method
STOT SE 3, H336	Calculation method
Met. Corr. 1, H290	Calculation method

Paragraphs modified from the previous revision:

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

This document was prepared by a competent person who has received appropriate training. Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX'S DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous

Goods by Road.

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association"

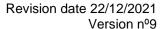
(IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.

KSt: Explosion coefficient.





LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

PNEC: Predicted No Effect Concentration.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWA: Time-weighted average
WGK: German Water Hazard Class.



ANNEX I: EXPOSURE ESCENARIOUS

Identificación de la sustancia	
Chemical name	ISOPROPYL ALCOHOL
CAS No.	67-63-0
INDEX No.	603-117-00-0
EC No.	200-661-7
Registration number(s)	01-2119457558-25

Number of the ES: 1	Preparation and packaging of substances and mixtures - Industry
Scenario description	
	ging the packaging of the substance and its mixtures in mass or continuous processes nixing, processing, pressing, pelletizing, extrusion, packaging in small and large sizes,
List of use descriptors	
Sector of use [SU]	SU3 : Industrial uses: Uses of substances as such or in preparations at industrial sites SU10 : Formulation
Product categories [PC]	
Process categories [PROC]	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC14: Tabletting, compression, extrusion, pelletisation, granulation PROC15: Use as laboratory reagent
Environmental Release Categ [ERC]	ories ERC2 : Formulation of preparations

2 Conditions of use affecting exposure

2.1 Control of worker exposure:

Characteristic general information:

Liquid, vapor pressure 0.5 - 10 kPa in, at STP.

Concentration of substance in the product:

It covers 100% of the use of the substance / product (unless otherwise stated);

Frequency and duration of use

Contains daily exposure up to 8 hours (synodically indicated).

Other operational conditions that affect worker exposure.



Assumes a use at no more than 20 ° C above the ambient temperature (if not indicated otherwise). It assumes the realization of a standard suitable for occupational hygiene.

Contributing Scenarios workkers

General measures (Irritants of the eyes).	Wear suitable eye protection. Avoid direct contact of the product with the eyes and also by contamination of the hands.
General exposures (closed systems)	No specific measures have been identified.
General exposures (open systems)	No specific measures have been identified.
Process of high temperature loads	No specific measures have been identified.
Sample of the process	No specific measures have been identified.
Laboratory activities	No specific measures have been identified.
Mixing operations (Open systems)	Store the substance in a closed system. Transfer through closed conduits.
Manual Transversing and pouring of containers	Store the substance in a closed system. Transfer through closed conduits.
Transfer drum / quantity	No specific measures have been identified.
Production of preparations * or articles by tabletting, compression, extrusion, pelletizing	No specific measures have been identified.
Fill drums and small packs	No specific measures have been identified.
Equipment cleaning and maintenance	Turn off systems before opening or maintaining equipment. Keep drains sealed until evacuation or Recycle later.
Storage	Store substance within a closed system.

2.2 Control of environmental exposure:

Not applicable

3 Exposure estimation and reference to its source

Health	Environment

It has been employed ECETOC TRA tool to estimate exposures in the workplace unless otherwise indicated error error

We used the hydrocarbon block method to calculate environmental exposure to the Petrorisk model.

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

Health

It not expected to exceed exposures under the DN (M) EL when the risk control measures / Operating Conditions outlined in Section 2 apply.

When other risk control measures / Operating Conditions are adopted, users should ensure that risks to at least equivalent levels are controlled.

Environment

The instructions are based on alleged working conditions that may not apply at all locations; therefore, it may be necessary to apply a scaling factor to define appropriate risk management specific to the site in question.



PROC : Process Categories SU : Sectors of use PC : Product Categories

ERC : Environmental Release Categories RCR : Risk characterisation ratios DNEL : derived no-effect level (DNEL)

PNEC: Predicted No Effect Concentration (PNEC)

Number of the ES: 2 | Application in laboratories - Industry

Scenario description

Use of substances around the laboratory, including transfer of material and cleaning of the facility.

List of use descriptors

Sector of use [SU]	SU3 : Industrial uses: Uses of substances as such or in preparations at industrial sites
Product categories [PC]	
Process categories [PROC]	PROC10: Roller application or brushing PROC15: Use as laboratory reagent
Environmental Release Categories [ERC]	ERC2: Formulation of preparations ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2 Conditions of use affecting exposure

2.1 Control of worker exposure:

Characteristic general information:

Liquid, vapor pressure 0.5 - 10 kPa in, at STP.

Concentration of substance in the product:

It covers 100% of the use of the substance / product (unless otherwise stated);

Frequency and duration of use

Contains daily exposure up to 8 hours (synodically indicated).

Other operational conditions that affect worker exposure.

Assumes a use at no more than 20 °C above the ambient temperature (if not indicated otherwise).

It assumes the realization of a standard suitable for occupational hygiene.

Contributing Scenarios workkers	Risk management measures
General measures (Irritants of the eyes).	Wear suitable eye protection. Avoid direct contact of the product with the eyes and also by contamination of the hands.
Cleaning	No specific measures have been identified.
Storage	No specific measures have been identified.

2.2 Control of environmental exposure:

Not applicable

3 Exposure estimation and reference to its source



Revision date 22/12/2021 Version nº9

Health

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Health

It not expected to exceed exposures under the DN (M) EL when the risk control measures / Operating Conditions outlined in Section 2 apply.

When other risk control measures / Operating Conditions are adopted, users should ensure that risks to at least equivalent levels are controlled.

Environment

The instructions are based on alleged working conditions that may not apply at all locations; therefore, it may be necessary to apply a scaling factor to define appropriate risk management specific to the site in question.

PROC: Process Categories

SU : Sectors of use PC : Product Categories

ERC : Environmental Release Categories RCR : Risk characterisation ratios DNEL : derived no-effect level (DNEL)

PNEC: Predicted No Effect Concentration (PNEC)



Identificación de la sustancia	
Chemical name	HYDROGEN CHLORIDE
CAS No.	7647-01-0
INDEX No.	017-002-01-0
EC No.	231-595-7
Registration number(s)	01-2119484862-27

Number of the ES: 1	Industrial uses, closed contained conditions		
Scenario description			
Industrial uses, including prod closed or contained systems	uct transfers and associated laboratory activities within different.		
List of use descriptors			
Sector of use [SU]	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites SU10: Formulation		
Product categories [PC]			
Process categories [PROC]	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities		

2 Conditions of use affecting exposure

2.1 Control of environmental exposure: Formulation of preparations (ERC2)

Characteristic general information:

Environmental Release Categories

Liquid gas

[ERC]

Concentration of substance in the product:

≤ 100%

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

The actual tonnage handled per site is not considered to influence the immissions as such for this scenario as there is practically no release.

ERC2: Formulation of preparations

Emission Days (days/year)

260 days/yr.

Technical and organisational conditions and measures

Use appropriate air emissions abatement systems (e.g. wet or dry scrubber or local STP) to ensure that the emission levels defined by local regulations are not exceeded

Soil emission controls are not applicable as there is no direct release to soil

Ensure operatives are trained to minimise releases

Conditions and measures related to sewage treatment plant

Substance will dissociate upon contact with water, the only effect is the pH effect, therefore after passing through the STP exposure is considered negligible and with no risk

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



No additional information

Other conditions affecting environmental exposure

No additional information

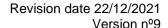
3 Exposure estimation and reference to its source

Worker exposure Use in closed process, no likelihood of exposure (PROC1)

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Dermal - Long-term - systemic effects		Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario.	
Dermal - Acute - systemic effects		Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario.	
Acute - Local - Inhalation	0,03mg/m³		0,002
Long term - Local - Inhalation	0,015mg/m³		0,002

Control of worker exposure: Use in closed, continuous process with occasional controlled exposure (PROC2)

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Dermal - Long-term - systemic effects		Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario.	
Dermal - Acute - systemic effects		Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario.	
Acute - Local - Inhalation	13,69mg/m³	Indoor use LEV90%	0,913





Long term - Local - Inhalation	4,11mg/m³	Indoor use LEV90%	0,514
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Worker exposure Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities (PROC8b)

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Dermal - Long-term - systemic effects		Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario.	
Dermal - Acute - systemic effects		Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario.	
Acute - Local - Inhalation	13,69mg/m³	Indoor use LEV90%	0,913
Long term - Local - Inhalation	4,11mg/m³	Indoor use LEV90%	0,514

Environmental release and exposure Formulation of preparations (ERC2)

Environment

Qualitative approach used to conclude safe use.

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

Health

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. For scaling see : . http://www.ecetoc.org/tra

Environment

Check that RMMs and OCs are as described above or of equivalent efficiency

PROC : Process Categories SU : Sectors of use PC : Product Categories

ERC : Environmental Release Categories RCR : Risk characterisation ratios DNEL : derived no-effect level (DNEL)

PNEC: Predicted No Effect Concentration (PNEC)