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)


Danger, Flam. Liq. 2, Highly flammable liquid and vapour.


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	Classification
>= 65% - < 80%	propan-2-ol; isopropyl alcohol; isopropanol	Index number: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH No.: 01-2119457558-25	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336
>= 20% - < 25%	hydrogen chloride	Index number: 017-002-00-2 CAS: 7647-01-0 EC: 231-595-7 REACH No.: 01-2119484862-27	2.5 Press. Gas H280 3.2/1A Skin Corr. 1A H314 3.1/3/Inhal Acute Tox. 3 H331 EUH071

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.

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 unguarded 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 ºC (IPA)	--	--
Flash point:	12 °C (IPA)	--	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	2-12% vol (IPA)	--	--
Vapour pressure:	N.A.	--	--
Vapour density:	(Air =1)(20ºC)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 ºC (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.	--	--
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: CI50 - 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

Preparation Packing and changing the packaging of the substance and its mixtures in mass or continuous processes including storage, transport, mixing, processing, pressing, pelletizing, extrusion, packaging in small and large sizes, test taking.

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 Categories [ERC]	**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 It has been employed ECETOC TRA tool to estimate exposures in the workplace unless otherwise indicated	**Environment** 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

Health It has been employed ECETOC TRA tool to estimate exposures in the workplace unless otherwise indicated	**Environment** 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)

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 product transfers and associated laboratory activities within different.
closed or contained systems

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
Environmental Release Categories [ERC]	**ERC2 :** Formulation of preparations

2 Conditions of use affecting exposure

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

Characteristic general information:
Liquid gas
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.
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
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)