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

1.1. Product identifier

Mixture identification: Hydrogen chloride in isopropyl acetate 3.5M
Trade name: Hydrogen chloride in isopropyl acetate 3.5M
UFI: E6H3-9QV4-D204-9178

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

Recommended use:
Nonaqueous 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.
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H336 May cause drowsiness or dizziness.

Precautionary statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P280 Wear protective gloves and eye 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.
P370+P378 In case of fire: Use dry sand, dry chemical, foam, CO2 or water spray for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.

Special Provisions:

None
Contains
hydrogen chloride
isopropyl acetate
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
>= 75% - < 90%	isopropyl acetate	Index number: 607-024-00-6 CAS: 108-21-4 EC: 203-561-1 REACH No.: 01-2119537214-46	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336 EUH066
>= 10% - < 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, foam, CO_2 or water spray 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

Always keep in a well ventilated place.
Storage below 10ºC
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

isopropyl acetate - CAS: 108-21-4

ACGIH - TWA(8h): 100 ppm - STEL: 150 ppm - Notes: URT and eye 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

isopropyl acetate - CAS: 108-21-4

Worker Professional: 850 mg/m3 - Consumer: 510 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Professional: 43 mg/kg bw/day - Consumer: 26 mg/kg bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 420 mg/m3 - Consumer: 252 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 420 mg/m3 - Consumer: 252 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
Consumer: 26 mg/kg bw/day - Exposure: Human Oral - Frequency: Long Term, local effects

PNEC Exposure Limit Values

isopropyl acetate - CAS: 108-21-4
Target: Fresh Water - Value: 0.22 mg/l
Target: Marine water - Value: 0.022 mg/l
Target: Intermittent / sporadic - Value: 1.1 mg/l
Target: Freshwater sediments - Value: 1.25 mg/kg dw
Target: Ground (groundwater) - Value: 0.125 mg/kg dw

8.2. Exposure controls

Eye protection:
Eye glasses with side protection.

Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

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

Respiratory protection:
Use adequate protective respiratory equipment.

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:	Transparent liquid or pale yellow	--	--
Odour:	Characteristic	--	--
Odour threshold:	N.A.	--	--
pH:	0	--	--
Melting point / freezing point:	< -50ºC	--	--
Initial boiling point and boiling range:	88.8 ºC (Isopropyl Acetate)	--	--
Flash point:	(Isopropyl Acetate) 5 ° C	--	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	Not Relevant	--	--
Upper/lower flammability or explosive limits:	1,8 - 8% (v/v) (Isopropyl Acetate)	--	--
Vapour pressure:	60.7 hPa 20ºC (Isopropyl Acetate)	--	--
Vapour density:	N.A.	--	--
Relative density:	0.9 kg/L	--	--
Solubility in water:	N.A.	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient (n-octanol/water):	N.A.	--	--
Auto-ignition temperature:	460ºC (Isopropyl Acetate)	--	--
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
Stable under normal conditions
10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
Reacts with strong oxidizing agents.
10.4. Conditions to avoid
Strong oxidising agents.
10.5. Incompatible materials
Strong bases.
Strong oxidizing agents
10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological information of the product:
ACETATO DE ISOPROPILO EN CLORURO DE HIDRÓGENO 3,5M
a) acute toxicity
The product is classified: Acute Tox. 4 H332
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:
isopropyl acetate - CAS: 108-21-4
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit 17400 mg/Kg bw
Test: LC50 - Route: Inhalation - Species: Rat 50600 mg/m3 - Duration: 8h
Test: LD50 - Route: Oral - Species: Rat 6750 mg/Kg bw
b) skin corrosion/irritation:
Test: Skin Irritant Negative - Source: Read-Across - Notes: OECD 404
c) serious eye damage/irritation:
Test: Eye Irritant Negative - Source: Read-Across - Notes: OECD 405
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Guinea pig Negative - Source: Read-Across - Notes: OECD 406
e) germ cell mutagenicity:
Test: Mutagenesis - Species: Generic Bacteria Negative
Toxicological kinetics, metabolism and distribution information:
Test: NOAEL - Route: Oral - Species: Rat 900 mg/Kg bw - Duration: 90 days - Source: Read-Across - Notes: Equiv. OECD 408
Test: LOAEL - Route: Oral - Species: Rat 3600 mg/Kg bw - Duration: 90 days - Source: Read-Across - Notes: Equiv. OECD 408

Test: NOEC - Route: Tox. Systemic - Species: Rat 350 ppm - Duration: 94 days - Source: Read-Across

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: extremadamente corrosivo y destructivo para los tejidos

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

ACETATO DE ISOPROPILO EN CLORURO DE HIDRÓGENO 3,5M

Not classified for environmental hazards

Based on available data, the classification criteria are not met

isopropyl acetate - CAS: 108-21-4

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 360 mg/l - Duration h: 48

Endpoint: LC50 - Species: Daphnia > 1000 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae 95 mg/l - Duration h: 72

12.2. Persistence and degradability

isopropyl acetate - CAS: 108-21-4

Biodegradability: Readily biodegradable - Test: OECD 301D - Duration: 20 Days - %: 76

12.3. Bioaccumulative potential

isopropyl acetate - CAS: 108-21-4

Bioaccumulation: Low Bioaccumulative potential - Test: Kow - Partition coefficient 1.18 - Notes: 20ºC

hydrogen chloride - CAS: 7647-01-0

Bioaccumulation: Not bioaccumulative

12.4. Mobility in soil

N.A.

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

14.3. Transport hazard class(es)

ADR-Class:	3
ADR - Hazard identification number:	338

IATA-Class: 3
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
IMDG-Segregation: Clear of living quarters.

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)

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
No Chemical Safety Assessment has been carried out for 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.
EUH066 Repeated exposure may cause skin dryness or cracking.
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
Met. Corr. 1, H290	Calculation method
Acute Tox. 4, H332	Calculation method
Skin Corr. 1A, H314	Calculation method
Eye Dam. 1, H318	Calculation method
STOT SE 3, H336	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.