SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : REACTIF INVAR - KOVAR

Product code : 17246-17247.

INVAR-KOVAR ETCHANT / INVAR-KOVAR ÄTZMITTEL / INVAR-KOVAR REACTIV

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

Etching reagent

1.3. Details of the supplier of the safety data sheet

Registered company name : PRESI S.A.S.

Address : 11 Rue du vercors.38320.EYBENS.France.

Telephone : +33 (0)4.76.72.00.21. Fax : +33 (0)4.76.72.05.84.

presi@presi.com

www.presi.com

1.4. Emergency telephone number : +33 (0)1.45.42.59.59.

Association/Organisation : INRS / ORFILA http://www.centres-antipoison.net.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Flammable liquid, Category 3 (Flam. Liq. 3, H226).

Acute oral toxicity, Category 3 (Acute Tox. 3, H301).

Acute dermal toxicity, Category 3 (Acute Tox. 3, H311).

Acute inhalation toxicity, Category 3 (Acute Tox. 3, H331).

Skin irritation, Category 2 (Skin Irrit. 2, H315).

Serious eye damage, Category 1 (Eye Dam. 1, H318).

Specific target organ toxicity (single exposure), Category 1 (STOT SE 1, H370).

Specific target organ toxicity (single exposure), Category 3 (STOT SE 3, H335).

Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :

GHS02 GHS05 GHS06 GHS08

Signal Word :

DANGER

Product identifiers :

EC 200-659-6	METHANOL
EC 231-595-7	HYDROCHLORIC ACID
EC 231-729-4	FER(III) CHLORURE, 6H2O

Hazard statements :

H226	Flammable liquid and vapour.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H370	Causes damage to organs (if inhaled, if swallowed, in contact with skin).
H412	Harmful to aquatic life with long lasting effects.
Precautionary statements - Prevention :	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statements - Response :	
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P302 + P352	IF ON SKIN: Wash with plenty of water/...
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.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P362 + P364	Take off contaminated clothing and wash it before reuse.
Precautionary statements - Storage :	
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
Precautionary statements - Disposal :	
P501	Dispose of contents/container to ...
Other information :	

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
CAS: 67-56-1 EC: 200-659-6 REACH: 01-2119433307-44 METHANOL	GHS06, GHS08 Dgr Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370	[1]	25 <= x % < 50

EC: 231-595-7 REACH: 01-2119484862-27 HYDROCHLORIC ACID	GHS05, GHS07 Dgr Skin Corr. 1B, H314 STOT SE 3, H335	B	10 <= x % < 25
CAS: 10025-77-1 EC: 231-729-4 REACH: 01-2119497998-05-0000 FER(III) CHLORURE, 6H2O	GHS07, GHS05 Dgr Acute Tox. 4, H302 Eye Dam. 1, H318		1 <= x % < 2.5
CAS: 7697-37-2 EC: 231-714-2 REACH: 01-2119487297-23-0000 NITRIC ACID	GHS05, GHS03 Dgr Ox. Liq. 3, H272 Skin Corr. 1A, H314 EUH:071	B [1]	1 <= x % < 2.5
CAS: 10125-13-0 EC: 231-210-2 REACH: 01-2119970306-36-0000 CUIVRE (II) CHLORURE 2H2O	GHS07, GHS09 Wng Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		0 <= x % < 1

(Full text of H-phrases: see section 16)

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

Do not proceed with mouth-to-mouth or mouth-to-nose resuscitation.Use the appropriate equipment.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

In the event of splashes or contact with skin :

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Remove any soiled or splashed clothing immediately.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

If swallowed accidentally, do not allow to drink, do not induce vomiting and transfer to hospital immediately by ambulance. Show the label to the doctor.

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

No data available.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Flammable.

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- water with AFFF (Aqueous Film Forming Foam) additive
- halon
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO2)

Prevent the effluent of fire-fighting measures from entering drains or waterways.

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO2)
- nitrogen oxide (NO)
- nitrogen dioxide (NO2)
- hydrogen chloride (HCl)
- phosgene (CCl2O)
- chlorine (Cl2)

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Because of the organic solvents contained in the mixture, eliminate sources of ignition and ventilate the area.

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures

Use drums to dispose of collected waste in compliance with current regulations (see section 13).

6.3. Methods and material for containment and cleaning up

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Fire prevention :

Handle in well-ventilated areas.

Vapours are heavier than air. They can spread along the ground and form mixtures that are explosive with air.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged : always earth during decanting operations. Wear antistatic shoes and clothing and floors should be electrically non-conductive.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Do not inhale vapours.

Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.

Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Avoid skin and eye contact with this mixture at all times.

Avoid exposure - obtain special instructions before use.

Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

Never open the packages under pressure.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from food and drink, including those for animals.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

Avoid accumulation of electrostatic charges.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Packaging

Always keep in packaging made of an identical material to the original.

Suitable packaging materials :

- Polyethylene

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
67-56-1	260	200	-	-	Peau
7697-37-2	-	-	2.6	1	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-56-1	200 ppm	250 ppm		Skin; BEI	
7697-37-2	2 ppm	4 ppm			

- Germany - AGW (BAuA - TRGS 900, 29/01/2018) :

CAS	VME :	VME :	Excess	Notes
67-56-1		200 ppm 270 mg/m³		4(II)
7697-37-2		1 ppm 2,6 mg/m³		

- Canada / Quebec (Regulations on occupational health and safety) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-56-1	200 ppm 262 mg/m3	250 ppm 328 mg/m3		Pc	
7697-37-2	2 ppm 5,2 mg/m3	4 ppm 10 mg/m3			

- France (INRS - ED984 :2016) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
67-56-1	200	260	1000	1300	(12)	84
7697-37-2	-	-	1	2.6	-	-

- Japan (JSOH, 11/05/2017) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-56-1	200 ppm 260 mg/m³				
7697-37-2	2 ppm 5,2 mg/m³				

- Switzerland (SUVAPRO 2017) :

CAS	VME	VLE	Valeur plafond	Notations
67-56-1	200 ppm 260 mg/m³	800 ppm 1040 mg/m³		R B SSC
7697-37-2	2 ppm 5 mg/m³	2 ppm 5 mg/m³		

- USA / NIOSH IDLH (National Institute for Occupational Safety and Health, Immediately Dangerous to Life or Health Concentrations) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-56-1	200 ppm 260 mg/m3	250 ppm 325 mg/m3		skin	
7697-37-2	2 ppm 5 mg/m3	4 ppm 10 mg/m3			

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
67-56-1	200 ppm 266 mg/m³	250 ppm 333 mg/m³		Sk	
7697-37-2	- ppm - mg/m³	1 ppm 2,6 mg/m³			

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

NITRIC ACID ...% (CAS: 7697-37-2)

Final use: **Workers.**
Exposure method: Inhalation.
Potential health effects: Long term local effects.
DNEL : 1.3 mg of substance/m3

Exposure method: Inhalation.
Potential health effects: Short term local effects.
DNEL : 2.6 mg of substance/m3

Final use: **Man exposed via the environment.**
Exposure method: Inhalation.
Potential health effects: Long term local effects.
DNEL : 0.65 mg of substance/m3

Exposure method: Inhalation.
Potential health effects: Short term local effects.
DNEL : 1.3 mg of substance/m3

FER(III) CHLORURE, 6H2O (CAS: 10025-77-1)

Final use: **Workers.**
Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 2.8 mg/kg body weight/day

Final use: **Man exposed via the environment.**
Exposure method: Ingestion.
Potential health effects: Long term systemic effects.
DNEL : 0.28 mg/kg body weight/day

Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 1.4 mg/kg body weight/day

HYDROCHLORIC ACID ...%

Final use:	**Workers.**
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	8 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	15 mg of substance/m3

METHANOL (CAS: 67-56-1)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	40 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	40 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Long term local effects.
DNEL :	50 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Short term local effects.
DNEL :	50 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	260 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	260 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	260 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	260 mg of substance/m3
Final use:	**Man exposed via the environment.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	8 mg/kg body weight/day
Exposure method:	Ingestion.
Potential health effects:	Short term systemic effects.
DNEL :	8 mg/kg body weight/day

Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	8 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Short term systemic effects.
DNEL :	8 mg/kg body weight/day

Predicted no effect concentration (PNEC):

CUIVRE (II) CHLORURE 2H2O (CAS: 10125-13-0)

Environmental compartment:	Soil.
PNEC :	65 mg/kg
Environmental compartment:	Fresh water.
PNEC :	7.8 µg/l
Environmental compartment:	Sea water.
PNEC :	5.2 µg/l
Environmental compartment:	Fresh water sediment.
PNEC :	87 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	676 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	230 µg/l

HYDROCHLORIC ACID ...%

Environmental compartment:	Fresh water.
PNEC :	36 µg/l
Environmental compartment:	Sea water.
PNEC :	36 µg/l
Environmental compartment:	Intermittent waste water.
PNEC :	45 µg/l
Environmental compartment:	Waste water treatment plant.
PNEC :	36 µg/l

METHANOL (CAS: 67-56-1)

Environmental compartment:	Soil.
PNEC :	23.5 mg/kg
Environmental compartment:	Fresh water.
PNEC :	154 mg/l
Environmental compartment:	Sea water.
PNEC :	15.4 mg/l
Environmental compartment:	Intermittent waste water.

PNEC :	1540 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	570.4 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	100 mg/l

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034 to prevent skin contact.

Wear suitable protective clothing and, in particular, an apron and boots. These items of clothing shall be maintained in good condition and cleaned after use.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Avoid breathing vapours.

Avoid inhaling vapors. Carry out any industrial task giving rise to this risk in a closed circuit. Provide extractor fans to capture the vapors at the emission source as well as general ventilation of the premises.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Likewise provide safety breathing apparatus for certain short tasks of an exceptional nature or for emergency interventions

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)
- A2 (Brown)
- A3 (Brown)

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.

Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	Not specified.
Flash Point Interval :	23°C <= FP <= 55°C
Vapour pressure (50°C) :	Not relevant.
Density :	< 1
Water solubility :	Soluble.
Melting point/melting range :	Not specified.
Self-ignition temperature :	Not specified.
Decomposition point/decomposition range :	Not specified.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

10.4. Conditions to avoid

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- accumulation of electrostatic charges.
- heating
- heat
- flames and hot surfaces

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO2)
- nitrogen oxide (NO)

- nitrogen dioxide (NO_2)
- hydrogen chloride (HCl)
- phosgene (CCl_2O)
- chlorine (Cl_2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxic if swallowed.

Toxic in contact with the skin.

Toxic by inhalation.

May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours.

May have irreversible effects on the eyes, such as tissue damage in the eye, or serious physical decay of sight, which is not fully reversible by the end of observation at 21 days.

Serious eye damage is typified by the destruction of cornea, persistent corneal opacity and iritis.

Respiratory tract irritation may occur, together with symptoms such as coughing, choking and breathing difficulties.

Causes damage to organs.

11.1.1. Substances

Acute toxicity :

FER(III) CHLORURE, 6H2O (CAS: 10025-77-1)

Oral route :	LD50 = 900 mg/kg Species : Rat

11.1.2. Mixture

Serious damage to eyes/eye irritation :

The risk of serious ocular lesions is based on the low/high pH and has been confirmed by tests.

SECTION 12 : ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 2 : Hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

1992

14.2. UN proper shipping name

UN1992=FLAMMABLE LIQUID, TOXIC, N.O.S.

(methanol, methanol)

14.3. Transport hazard class(es)

- Classification :

3+6.1

14.4. Packing group

III

14.5. Environmental hazards

-

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	3	FT1	III	3+6.1	36	5 L	274	E1	3	D/E

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ
	3	6.1	III	5 L	F-E,S-D	223 274	E1

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	3	6.1	III	355	60 L	366	220 L	A3	E1
	3	6.1	III	Y343	2 L	-	-	A3	E1

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

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

No data available.

SECTION 15 : REGULATORY INFORMATION

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

- Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2018/1480 (ATP 13)

- Container information:

No data available.

- Particular provisions :

No data available.

- German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 2 : Hazardous for water.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H370	Causes damage to organs .
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefahrdungsklasse (Water Hazard Class).

GHS02 : Flame

GHS05 : Corrosion

GHS06 : Skull and crossbones

GHS08 : Health hazard
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.