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

1.1 Product identification:

Product name:	Metal patina Rust on iron Part B
UFI code:	VGUS-686P-T00Y-AD8T
Product form:	Mixture
Product type:	Paint
Product group:	Commercial product

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

Main use category:	Industrial use, Professional use
Spec. industrial/professional use:	Paint
Use of the substance or mixture:	Industrial
Uses advised against:	Not to be used for private purposes (household). Food, drink and animal feed.

1.3 Details of the supplier of the safety data sheet:

Manufacturer :	ASSYST bvba / A.S.O.W. bvba Hellegatstraat 13a 2590 Berlaar Belgium Tel: +32 495 50 61 14 / +32 496 83 70 27 Website: www.assyst.org / www.artsuppliesonweb.com Email: ao@assyst.org / vera.opsommer@assyst.org

1.4 Emergency phone number:

For Belgium:	Call the **Poison Control Centre (070 245 245 - free)**, if not available: **02 264 96 30** (normal rate) or your doctor. In life-threatening situations, always call the European emergency number **112**.
NHS 24 Direct	For help from a GP, visit your GP surgery's website, use an online service to contact your GP, or call the surgery. **For urgent medical help**, use the NHS 111 online service, or **call 111** if you are unable to get help online. **For life-threatening emergencies, call 999** for an ambulance. There is more information about getting medical help on the NHS website.

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture:

Classification according to directive (EC) No 1272/2008 and its amendments.

The product is classified according to current legislation.

Classification in accordance with Regulation (EC) No 1272/2008 as amended.

Health hazards

Corrosive to metals, Category 1 - H290

Serious eye damage/eye irritation, Category 1 - H318

Full text of H phrases in section 16.

Adverse physicochemical, health and environmental effects

Causes serious eye damage. May be corrosive to metals.

2.2 Labelling elements:

Labelling according to regulation (EC) No 1272/2008 [CLP/GHS]:

Hazard pictograms:

Signal word Danger.

Hazardous ingredients to be declared on the label:

- ✓ Iron (III) chloride
- ✓ Hydrochloric acid...%
- ✓ Ethanol

Hazard statements:
H290 - May be corrosive to metals.
H318 - Causes serious eye damage.
Precautions
Prevention:
P280 - Wear protective clothing, eye protection, face protection, protective gloves.
Action:
P305+P351+P338+P310 - IF CONTACT WITH EYES: Rinse cautiously with water for several minutes; remove contact lenses, if possible; continue rinsing. Immediately consult a doctor, a POISON CENTER.
P390 - Absorb spills/spills to avoid material damage.
P406 - Store in corrosion-resistant container with corrosion-resistant inner lining.
P501 - Dispose of contents and packaging to an approved waste disposal facility.
2.3 Other hazards:
If spilled, the floor may be slippery.
This substance/mixture does not contain any components that can be considered persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ecological information:
The substance/mixture does not contain any components believed to have endocrine-disrupting properties according to REACH article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at level 0.1% or higher.
Toxicological information:
The substance/mixture does not contain any components believed to have endocrine-disrupting properties according to REACH article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at level 0.1% or higher.

SECTION 3: Composition and information on ingredients

3.2 Mixtures:

Chemical Name	Cas no. EC No. Index No. Registration number	Classification (Regulation (EC) No 1272/008)	Concentration (%)
Iron (III) chloride	CAS No. 7705-08-0 EC No 231-729-4 REACH reg. no. 01-2119497998-05	With. Corr. 1 / H290 Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 **ATE** 500 mg/kg (oral)	3.9 - 8.2
ethanol; ethyl alcohol	CAS No : 64-17-5 EC No : 200-578-6 Index No: 603-002-00-5 REACH reg. No.01-2119457610-43	Flam. Liq.2 H225 Eye Irrit.2 H319 **Specific concentration limits** Eye Irrit. 2; H319 >= 50 %	2.76 - 4.6
Hydrochloric acid ... %	(CAS No) 7647-01-0 (EC No) 231-595-7 (EU Identification-No) 017-002-00-2 (REACH No) 01-2119484862-27	Met. Corr.1 H290;Skin Corr.1A H314; Eye Dam.1 H318; STOT SE3 H335; **M-factor (Acute aquatic toxicity):** 1 **Specific concentration limits** STOT SE 3; H335 >= 10 %	0.4 - 1.4

		Skin Corr. 1A; H314 >= 25 % Skin Corr. 1B; H314 10 - < 25 % Eye Dam. 1; H318 >= 1 % With. Corr. 1; H290 >= 0,1 % **Not** B	
propane-2-ol; isopropyl alcohol; isopropanol	(CAS No) 67-63-0 (EC No) 200-661-7 (EU Identification-No) 603-117-00-0 (REACH No) 01-2119457558-25	Flam. Liq.2 H225 Eye Irrit.2 H319 STOT SE3 H336	0.03 - 0.25

Nuts

B: Some substances (such as acids and bases) are marketed as aqueous solutions of varying concentrations and these solutions must therefore be classified and labelled differently according to the danger associated with each concentration. Whenever Note B is mentioned in Part 3, a general designation such as: "nitric acid ... %". In this case, the supplier must state on the label the concentration as a percentage. Unless otherwise stated, it is assumed that the concentration is calculated on the basis of the percentage by weight.

GHS-HC: Harmonised classification (the classification of the substance is according to the annotation in accordance with 1272/2008/EC, Annex VI)

IOELV: Substance with a common indicative occupational exposure limit Full text of H phrases: see section 16

For explanation of abbreviations, see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures:

First aid general:

Remove contaminated clothing immediately

Wear protective gloves.

First aid after inhalation:

Get the person into fresh air and make sure they can breathe easily.

Consult a doctor immediately.

Loosen tight-fitting clothing, such as a shirt collar, tie, belt or belt.

First aid after skin contact:

Remove contaminated clothing and shoes.

Wash immediately with plenty of soap and water.

If irritation persists, consult a doctor.

First aid after eye contact:

IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses, if possible; continue rinsing.

Protect undamaged eye.

Consult an ophthalmologist immediately.

First aid after ingestion by mouth:

Rinse mouth with water.

DO NOT induce vomiting.

Consult doctor/medical service.

Bring the victim into fresh air.

Let the victim rest.

Loosen tight-fitting clothing, such as a shirt collar, tie, belt or belt.

Never administer anything by mouth to an unconscious person.

4.2 Main acute and delayed symptoms and effects:

No additional information available.

4.3 Indication of immediate medical attention and special treatment required:

Treatment of symptoms (removal of contaminant, monitoring of vital signs), no specific antidote known.

Ensure suitable ventilation, especially in enclosed areas.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media:

Suitable extinguishing agents:

Dry chemical, CO2, or water spray or standard foam. Use extinguishing agents suitable for surrounding fire.

Unsuitable extinguishing media:

Do not use a strong water jet.

5.2 Special hazards arising from the substance or mixture:

Fire hazard:

Formation of corrosive vapours.
Possible formation of toxic fumes.
Chance of pressure build-up.
Risk of closed containers bursting open.

Explosion hazard:

Heat can cause pressure and the bursting of closed vessels, spreading the fire and increasing the risk of burns and injuries.

Reactivity in case of fire:

Smoke/fog formation. Possible formation of toxic gases.

Hazardous decomposition products in case of fire:

When heated: formation of harmful gases/vapours. Carbon oxides (CO, CO2). Hydrochloric acid ... % (hydrogen chloride). Chlorine.

5.3 Advice for firefighters:

Fire precautions:

Approaching with the wind.
Wear self-contained breathing apparatus.
Evacuate.

Extinguishing instructions:

Cool exposed vessels with a water spray or mist.
If possible, cool the containers/tanks/reservoirs by spraying water.
Consideration of environmentally contaminated firewater.

Protection during firefighting:

Approaching against the wind.
Use self-contained breathing apparatus and clothing that protects against chemicals.
Do not enter fire zone without suitable safety equipment, including respiratory protection.

Other information:

Do not inhale the vapours.
Avoid the product contaminating groundwater.
Do not pollute ground and surface water.

SECTION 6: Measures in case of accidental release of the substance or mixture

6.1 Personal precautions, protective equipment and emergency procedures:

General measures:

Avoid contact with eyes and skin and do not inhale vapour or mist.
Evacuate personnel to a safe place.
Ensure adequate ventilation.
Keeping upwind.
Wear personal protective equipment.
Plug the leak if it can be done safely.

6.1.1. For persons other than emergency services

Protective equipment:

For material selection of protective clothing: see "Material-handling".

6.1.2. For the emergency services

Protective equipment:

For material selection of protective clothing: see "Material-handling".
6.2 Environmental precautions:
Environmental precautions:
Do not discharge into groundwater, surface water or the sewerage system.
For further information, see paragraph 13.
6.3 Methods and materials for containment and cleaning:
For containment:
Collect and dispose of all waste in suitable and labelled containers in accordance with locally applicable regulations.
Absorb in an absorbent product (e.g. sand, sawdust, universal binder, silica gel).
Cleaning methods:
Vacuum up large spills with a pump or hoover.
Absorb spill liquid in absorbent including: sand, earth, vermiculite or lime.
Clean contaminated surfaces with plenty of water.
Other information:
The spilled product may be dangerously slippery.
Do not inhale the vapours.
6.4 Reference to other sections:
Reference to other sections (8, 13). SECTION 7.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling of the substance or mixture:
Additional hazards in processing:
Electrostatic charges can build up during handling.
Precautions for safe handling of the substance or mixture:
Avoid contact with eyes and skin and do not inhale vapour or mist.
Use only in well-ventilated areas.
Avoid vapour formation.
Handle and open the container/packaging carefully.
Emergency eye showers and safety showers should be installed in close proximity to any place of potential exposure.
Provide a local exhaust or general ventilation of the room.
Hygiene measures:
Wash hands and other exposed parts with mild soap and water before eating, drinking, smoking or leaving work.
Do not eat, drink or smoke while using this product.
Remove and wash contaminated clothing immediately before reuse.
Contaminated work clothes must not leave the work area.
Handle in accordance with good industrial hygiene and safety practices.
7.2 Conditions for safe storage, including incompatibilities:
Technical measures:
Provide a local exhaust or general ventilation of the room.
Ensure suitable ventilation, especially in enclosed areas.
Emergency eye showers and safety showers should be installed in close proximity to any place of potential exposure.
Storage conditions:
Keep only in the original packaging.
Keep container tightly closed to avoid contamination and moisture absorption.
All packaging should have a label warning against exposure.
Already opened containers should be carefully sealed and stored upright to prevent leakage.
Store in a dry place.
Keep behind lock.

Store in a safe manner in accordance with local/national regulations.
Non-combinable fabrics:
Keep away from: strong acids, strong bases and oxidising agents, water, reducing agents.
Incompatible materials:
Metals. Refer to Section 10 on Non-compatible materials.
Heat and ignition sources:
Protect from heat and direct sunlight.
No flames, no sparks.
Remove all ignition sources.
Information on mixed storage:
Food separation.
Store away from strong oxidisers, strong bases, strong acids.
Storage:
Protect from direct sun rays.
Store in a well-ventilated place.
Special packaging requirements:
Keep only in the original packaging.
Correctly labelled.
Packaging material:
Keep only in the original packaging.
7.3 Specific end use:
For the relevant identified use(s) in section 1, the advice in section 7 should be taken into account.

SECTION 8: Exposure controls/personal protection measures

8.1 Control parameters:
National occupational exposure values and biological limit values
This information is not available.
Derived no-effect doses (DNEL) / derived minimum effect (DMEL)
Components with workplace exposure limits.
Component: ferric chloride CAS No 7705-08-0
DNEL Workers, long-term - systemic effects, Inhalation : 2 mg/m3
DNEL Workers, Acute - systemic effects, Inhalation : 2
DNEL Workers, long-term - systemic effects, Skin contact : 0.57 mg/kg bw/day
DNEL Workers, Acute - systemic effects, Skin contact : 0.57 mg/kg bw/day
DNEL Consumers, long-term - systemic effects, Inhalation : 0.5 mg/m3
DNEL Consumers, Acute - systemic effects, Inhalation : 0.5
DNEL Consumers, long-term - systemic effects, Skin contact : 0.29 mg/kg bw/day
DNEL Consumers, Acute - systemic effects, Skin contact : 0.29 mg/kg bw/day
DNEL Consumers, long-term - systemic effects, Ingestion : 0.29 mg/kg bw/day
Component: ethanol CAS No 64-17-5
DNEL Workers, long-term - systemic effects, Inhalation : 950 mg/m3
DNEL Workers, Acute - local effects, Inhalation : 1900 mg/m3
DNEL Workers, long-term - systemic effects, Skin contact : 343 mg/kg bw/day
DNEL Consumer, long-term - systemic effects, Inhalation : 114 mg/m3
DNEL Consumers, Acute - local effects, Inhalation : 950 mg/m3
DNEL Consumers, long-term - systemic effects, Skin contact : 206 mg/kg bw/day
DNEL Consumers, long-term - systemic effects, Ingestion : 87 mg/kg bw/day
Component: hydrochloric acid CAS No 7647-01-0
DNEL Workers, Acute - local effects, Inhalation: 15 mg/m3
DNEL Workers, Long-term - local effects, Inhalation: 8 mg/m3
Component: propane-2-ol CAS No 67-63-0
DNEL Workers, long-term - systemic effects, Skin contact : 888 mg/kg bw/day

DNEL Workers, long-term - systemic effects, Inhalation : 500 mg/m3
DNEL Consumers, long-term - systemic effects, Skin contact : 319 mg/kg bw/day
DNEL Consumers, long-term - systemic effects, Inhalation : 89 mg/m3
DNEL Consumers, long-term - systemic effects, Ingestion : 26 mg/kg bw/day
Predicted no-effect concentration (PNEC)
Components with workplace exposure limits.
Component: ferric chloride CAS No 7705-08-0
Wastewater treatment plant Fe : 500 mg/l
Freshwater deposition Fe : 49500 mg/kg dry weight (d.g.)
Sea deposits Fe : 49500 mg/kg dry weight (d.g.)
Soil Fe : 55500 mg/kg dry weight (d.g.)
Component: ethanol CAS No 64-17-5
Freshwater: 140.9 mg/l
Seawater: 140.9 mg/l
Intermittent releases: 140.9 mg/l
Wastewater treatment plant: 2251 mg/l
Sediment: 552 mg/kg dry weight
Soil: 28 mg/kg
Secondary poisoning: 160 mg/kg of food
Component: hydrochloric acid CAS No 7647-01-0
Freshwater: 36 µg/l
Sea water: 36 µg/l
intermittent releases: 45 µg/l
Wastewater treatment plant: 36 µg/l
Freshwater deposition: Exposure is not expected.
Sea deposits: Exposition is not expected.
Soil: 0.036 mg/kg
Other occupational exposure limits
Component: ethanol CAS No 64-17-5
Belgium.
OEL, Time-weighted average (TWA): 200 ppm, 500 mg/m3
Belgium.
OEL, Short-term exposure limit (STEL) 400 ppm, 1,000 mg/m3, (15 minutes)
Component: hydrochloric acid CAS No 7647-01-0
EU. Indicative Limit Values in Directives 91/322 / EEC, 2000/39 / EC, 2006/15 / EC, 2009/161 / EU, Time Weighted Average (TWA): 5 ppm, 8 mg/m3
Designate
EU. Indicative Limit Values in Directives 91/322 / EEC, 2000/39 / EC, 2006/15 / EC, 2009/161 / EU, Short-term exposure limit (STEL): 10 ppm, 15 mg/m3
Designate
Belgium. OEL, Time-weighted average (TWA): 5 ppm, 8 mg/m3
Belgium. OEL, Short-term exposure limit (STEL): 10 ppm, 15 mg/m3, (15 minutes)
Netherlands. OEL (binding), Short-term exposure limit (STEL): 15 mg/m3, (15 minutes)
Netherlands. OEL (binding), Time Weighted Average (TGG): 8 mg/m3
EU. Indicative Limit Values in Directives 91/322 / EEC, 2000/39 / EC, 2006/15 / EC, 2009/161 / EU, Time Weighted Average (TWA): 5 ppm, 8 mg/m3
Designate
EU. Indicative Limit Values in Directives 91/322 / EEC, 2000/39 / EC, 2006/15 / EC, 2009/161 / EU, Short-term exposure limit (STEL): 10 ppm, 15 mg/m3
Designate
8.2 Exposure control measures:
Appropriate technical measures

See protective measures in sections 7 and 8.
Personal protective equipment
Respiratory protection
Advice : For short exposure or low contamination respirator.
In case of prolonged exposure use self-breathing apparatus.
Respiratory protection according to EN 141.
Recommended filter type: Combination filter:B-P2.
Hand protection
Recommendation : Protective gloves according to EN 374.
Observe regulations on permeability and soak time, as supplied by the glove supplier.
Also take into account specific local operating conditions, such as danger of cuts, abrasion and touch time.
Safety gloves should be replaced when worn.
Material : Polychloroprene
Breakthrough time : > 480 min
Glove thickness : 0.5 mm
Material : Nitrile rubber
Breakthrough time : > 480 min
Glove thickness : 0.35 mm
Material : butyl rubber
Breakthrough time : > 480 min
Glove thickness : 0.5 mm
Material : Polyvinyl chloride
Breakthrough time : > 480 min
Glove thickness : 0.5 mm
Material : Fluorinated rubber
Breakthrough time : > 480 min
Glove thickness : 0.4 mm
Eye protection
Advice : Face shield
Close-fitting safety goggles (EN166).
Skin and body protection
Advice : Acid-resistant protective clothing.
Managing environmental exposure
General advice : Do not drain into surface water or the sewerage system.
Avoid penetration into the soil.
If the product contaminates rivers, lakes or sewers, inform the respective authorities.
If the material reaches the ground inform the authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical state:	Liquid
Appearance:	Liquid.
Colour:	Colourless, pale yellow.
Odour:	not determined.
Odour threshold:	not determined
Melting point:	not determined
Freezing point:	not determined
Boiling point:	not determined
Flammability:	Non-flammable
Explosive properties:	Based on its structure, this product is classified as non-explosive.

Oxidising properties:	None known.
Explosion limits:	not established
Lower explosion limit (OEG):	Not available
Upper explosion limit (BEG):	Not available
Flash point:	not determined
Self-ignition temperature:	not determined
Decomposition temperature:	not determined
SADT:	not established
pH:	Not available
pH solution:	not determined
Viscosity, kinematic:	not determined
Viscosity, dynamic:	not determined
Solubility:	Water: not determined
Partition coefficient n-octanol/water (Log Kow):	Not available
Vapour pressure:	not determined
Vapour pressure at 50°C:	not determined
Density:	not determined
Relative density:	not determined
Relative vapour density at 20°C:	not determined
Particle size:	Not applicable
Particle size distribution:	Not applicable
Form of particles:	Not applicable
Aspect ratio particles:	Not applicable
Particulate aggregation state:	Not applicable
Particle agglomeration state:	Not applicable
Specific particle surface size:	Not applicable
Particle dust formation:	Not applicable

9.2 Other information

Information on physical hazard classes

Corroded metals:	Iron, Steel
Corrosion rate:	not determined

Other safety features

Relative evaporation rate (butyl acetate=1):	not determined
Miscibility:	not determined
VOC content:	not determined
Bulk density:	Not applicable
Other properties:	If necessary, information on other physical and chemical parameters is given in this section.
Additional information:	No further information available.

SECTION 10: Stability and reactivity

10.1 Reactivity:
Can be corrosive to metals.
Reacts with (some) metals and metal compounds.
Can release: Hydrogen. May form explosive mixture with air.
10.2 Chemical Stability:
Stable under normal conditions.
10.3 Potential Hazardous Reactions:
May decompose on exposure to high temperature, releasing toxic fumes.
Corrosive to metals. Hydrochloric acid.
10.4 Conditions to avoid:
Avoid high temperatures.

Keep away from heat sources and direct sunlight.
10.5 Chemically interacting Materials:
Acids and bases. Strong oxidising agents. metals. Amines. Alkali metals. permanganates, e.g. potassium permanganate. Fluorine.
10.6 Hazardous Decomposition Products:
Thermal decomposition releases: Carbon oxides (CO, CO2).
Under the influence of heat: hydrochloric acid. Chlorine.

SECTION 11: Toxicological information
11.1 Information on toxicological effects:
Acute toxicity (oral):
Not classified (Based on available data; classification criteria not met)
Acute toxicity (dermal):
Not classified (Based on available data; classification criteria not met)
Acute toxicity (inhalation):
Not classified (Based on available data; classification criteria not met)
Constituents:
Iron (III) chloride (7705-08-0)
Acute toxicity
Oral
Acute toxicity estimates : 1300 mg/kg) (Calculation method)
Harmful if swallowed.
Inhalation
Based on available data; classification criteria not met.
Skin
Based on available data; classification criteria not met.
ethanol; ethyl alcohol (64-17-5)
Acute toxicity
Oral
Acute toxicity estimates : > 2000 mg/kg) (Calculation method).
Based on available data; classification criteria not met.
Inhalation
Acute toxicity estimates: > 20 mg/l (4 h; vapours) (Calculation method).
Classification based on the calculation method according to CLP regulation.
Skin
Acute toxicity estimates: > 2000 mg/kg) (Calculation method).
Not classified based on the calculation method according to the CLP regulation.
Hydrochloric acid ...% (7647-01-0)
Acute toxicity
Oral
Not classified based on the calculation method according to the CLP regulation.
Toxicity is determined by the etching action of the product.
Inhalation
Not classified based on the calculation method according to the CLP regulation.
Toxicity is determined by the etching action of the product.
Skin
Not classified based on the calculation method according to the CLP regulation.
Toxicity is determined by the etching action of the product.
Skin corrosion/irritation:
Not classified (Based on available data; classification criteria not met)
Serious eye damage/eye irritation:
Causes serious eye damage.

Respiratory/skin sensitisation:
Not classified (Based on available data; classification criteria not met)
Mutagenicity in gametes:
Not classified (Based on available data; classification criteria not met)
Carcinogenicity:
Not classified (Based on available data; classification criteria not met)
Reproductive toxicity:
Not classified (Based on available data; classification criteria not met)
STOT on single exposure:
Not classified (Based on available data; classification criteria not met)
Hydrochloric acid ... % (7647-01-0)
STOT on single exposure:
May cause respiratory irritation.
propane-2-ol; isopropyl alcohol; isopropanol (67-63-0)
STOT on single exposure:
May cause drowsiness or dizziness.
STOT on repeated exposure:
Not classified (Based on available data; classification criteria not met)
Aspiration hazard:
Not classified (Based on available data; classification criteria not met)
Metal patina Rust B
Viscosity, kinematic:
not established
11.2 Endocrine disrupting properties
Contains no endocrine disruptor (ED) at a concentration of ≥ 0.1%.
11.3 Information on other hazards
There is no further information.
Other information
Potential adverse effects on human health and possible symptoms:
Causes serious eye damage.
Other information:
No experimental studies on the product are available. The information provided is based on our knowledge of the ingredients and the classification of the product was determined from calculations

SECTION 12: Ecological information

12.1 Toxicity:
Ecology - general:
Not considered to pose a serious risk under normal conditions of use.
Ecology - air:
Not hazardous to the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water:
Do not discharge into groundwater, surface water or drains. Toxic to aquatic organisms, with long-lasting effects.
Short-term hazard to the aquatic environment (acute):
Not classified (Based on available data; classification criteria not met)
Aquatic hazard, long-term (chronic):
Not classified (Based on available data; classification criteria not met)
Additional information:
No experimental studies on the product are available. The information provided is based on our knowledge of the ingredients and the classification of the product was determined from calculations.
Metal patina Rust B
Additional information:

The product was not examined.
The information is derived from the properties of the individual components.
Component: hydrochloric acid CAS No 7647-01-0
Acute toxicity
Fish
LC50 : 20.5 mg/l (Lepomis macrochirus; 24 h)
Toxicity to daphnia and other aquatic invertebrates
EC50 : 0.45 mg/l (Daphnia magna; 48 h) (OECD Test Guideline 202)
algae
ErC50 : 0.73 mg/l (Chlorella vulgaris (freshwater algae); 72 h) (Endpoint: Growth rate; OECD Test Guideline 201)
Bacteria
EC50 : 0.23 mg/l (activated sludge; 3 h) (Endpoint: Respiratory inhibition; OECD Test Guideline 209)
M-factor
M-Factor (acute Aquat. Tox.): 1
Component: ethanol CAS No 64-17-5
Acute toxicity
Fish
LC50 : 15,300 mg/l (Pimephales promelas (American fathead); 96 h) (flow-through test; US-EPA)
LC50 11,200 mg/l (Salmo gairdneri; 24 h) (flow-through test; US-EPA)
LC50 13,000 mg/l (Oncorhynchus mykiss; 96 h) (Guideline test OECD 203)
Toxicity to daphnia and other aquatic invertebrates
EC50 : 858 mg/l (Artemia salina; 24 h) (OECD test guideline 202)Marine water
EC50 12,340 mg/l (Daphnia magna (large water flea); 48 h) (ASTM E 729-80)Freshwater
LC50 5,012 mg/l (Ceriodaphnia dubia (water flea); 48 h) (static test; ASTM E 729-80)Freshwater
Algae
EC50 : 275 mg/l (Chlorella vulgaris (freshwater algae); 72 h) (static test; Endpoint: Growth rate; OECD Test Guideline 201)Freshwater
EC10 11.5 mg/l (Chlorella vulgaris (freshwater algae); 72 h) (static test; OECD Test Guideline 201)
Bacteria
EC50 : 5800 mg/l (Paramaecium caudatum; 4 h) (static test; No guideline followed)
Chronic toxicity
Fish
NOEC : 245 mg/l (30 d) (QSAR)
aquatic invertebrates
NOEC 9.6 mg/l (Ceriodaphnia dubia (water flea); 10 d) (semi-static test; Endpoint: Reproduction; No guideline followed)
NOEC 79 mg/l (Palaemonetes pugio; 12 d) (static test)
Component: propane-2-ol CAS No 67-63-0
Acute toxicity
Fish
LC50 : 9,640 mg/l (Pimephales promelas, mortality; 96 h) (flow-through test; Guideline test OECD 203)
Toxicity to daphnia and other aquatic invertebrates
LC50 : 9,714 mg/l (Daphnia magna, mortality rate; 24 h) (static test; OECD Test Guideline 202)
Algae
EC50 : > 100 mg/l (Scenedesmus subspicatus; 72 h)
LOEC 1000 mg/l (Algae; 8 d)
Bacteria
EC50 : > 100 mg/l (Bacteria) no harmful action
Component: iron trichloride CAS No 7705-08-0
Acute toxicity
Fish
LC50 : 20.3 mg/l (Lepomis macrochirus (Sunfish); 96 h)

Toxicity to daphnia and other aquatic invertebrates
EC50 : 9.6 mg/l (Daphnia magna (large water flea); 48 h) (Immobilisation; OECD Test Guideline 202)
Algae
ErC50 : 6.9 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (OECD test guideline 201)
NOEC 2.4 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (OECD Test Guideline 201)
Chronic toxicity
Fish
NOEC : 0.32 mg/l (Pimephales promelas (American fathead); 33 d
aquatic invertebrates
NOEC 0.7 mg/l (Daphnia magna (large water flea); 21 d)
12.2 Persistence and Degradability:
Metal patina Rust B
Persistence and degradability:
The product has not been tested.
The statement is derived from substance/products with similar structure or composition.
Biodegradation:
not established
Component: ethanol CAS No 64-17-5
Persistence and degradability
Persistence
Result : (to related: Water) non-significant hydrolysis
Biodegradability
Result : 97 % (aerobic; activated sludge; to related: CO2 formation (% of theoretical value).; Exposure time: 28 d)(OECD test guideline 301 B)
Easily biodegradable.
Component: propane-2-ol CAS No 67-63-0
Persistence and degradability
Persistence
Result : Transformation due to hydrolysis expectation not significant.
Transformation due to photolysis expectation not significant.
Biodegradability
Result : 53 % (aerobic; Domestic sewage; to related: O2 consumption; Exposure time: 5 d)(Directive 67/548/EEC, Annex V, C.5.)
Easily biodegradable.
Component: hydrochloric acid CAS No 7647-01-0
Persistence and degradability
Persistence
Result : The product is soluble in water.
Biodegradability
Result : Methods for determining biodegradability are not applicable for inorganic substances.
12.3 Bioaccumulation:
Metal patina Rust B
Bioaccumulation:
Low potential for biological accumulation.
Iron (III) chloride (7705-08-0)
Bioaccumulation:
Result : BCF: < 20; (Cyprinus carpio (Carp); 5 mg/l; Test substance:
Iron(II)sulphate heptahydrate; Bioaccumulation is not expected.
Component: ethanol CAS No 64-17-5
Bioaccumulation
Result :
log Pow -0.35 (24 °C; pH 7.4) (Guideline test OECD 107)

BCF: 0.66; Does not bioaccumulate.
Component: propane-2-ol CAS No 67-63-0
Bioaccumulation
Result :
log Pow 0,05 (25 °C)
Bioaccumulation is not expected.
Component: hydrochloric acid CAS No 7647-01-0
Bioaccumulation
Result : Bioaccumulation is not expected.
12.4 Mobility in soil:
Metal patina Rust B
Ecology - soil:
No specific data.
Component: ethanol CAS No 64-17-5
Mobility
Water : The product is water-soluble
Air : The product evaporates easily.
Soil : Is not expected to adsorb to soil.
Component: propane-2-ol CAS No 67-63-0
Mobility
Water : The product is water-soluble
Soil : Mobile in soil
Component: hydrochloric acid CAS No 7647-01-0
Mobility
Soil : Is not expected to adsorb to soil.
Water : The product is soluble in water.
12.5 Results of PBT and vPvB assessment:
Components
Iron (III) chloride (7705-08-0)
Does not contain any PBT/vPvB substance at a concentration of ≥ 0.1%.
ethanol; ethyl alcohol (64-17-5)
Does not contain any PBT/vPvB substance at a concentration of ≥ 0.1%.
Hydrochloric acid ... % (7647-01-0)
Does not contain any PBT/vPvB substance at a concentration of ≥ 0.1%.
propane-2-ol; isopropyl alcohol; isopropanol (67-63-0)
Does not contain any PBT/vPvB substance at a concentration of ≥ 0.1%.
12.6 Other Harmful Effects:
12.6 Endocrine disrupting properties
Contains no endocrine disruptor (ED) at a concentration of ≥ 0.1%.
12.7 Other adverse effects
No data are available.
Other adverse effects:
No further information available.
Additional information:
Avoid discharge into the environment. No experimental studies on the product are available. The information provided is based on our knowledge of the ingredients and the classification of the product was determined from calculations

SECTION 13: Disposal instructions

13.1 Waste treatment methods:
Product:
Disposal together with normal waste is prohibited.

Special disposal is required according to local regulations.
Do not allow product to enter drains.
Contact waste management service.
This product must be disposed of or recovered in accordance with Directive 2008/98/EC on waste, as last amended.
Contaminated packaging:
Empty used containers thoroughly.
Packaging can be reused after thorough cleaning.
If reuse is not possible, dispose of according to local regulations.
European waste list number (EWCN):
A waste code according to the European Waste Catalogue cannot be assigned for this product, as the intended use dictates the assignment.
The waste code is established in consultation with the regional waste disposal authority.

SECTION 14: Information relating to transport

14.1 UN number
Not applicable
14.2 Proper cargo name according to UN model regulations
Not applicable
14.3 Transport hazard class(es)
Not applicable
14.4 Packing group
Not applicable
14.5 Environmental hazards
Not applicable
14.6 Special precautions for the user
Not applicable
14.7 Transport in bulk in accordance with Annex II to MARPOL 73/78 and the IBC Code
Not applicable for product, as delivered.

SECTION 15: Statutory information

15.1 Safety, health and environmental regulations and legislation specific to the substance or mixture:
EU. Regulation EC No 689/2008:
Substance/mixture is not covered by this legislation.
EU. REACH, Annex XVII, Marketing and use restrictions (Regulation 1907/2006/EC):
Component: hydrochloric acid ... % CAS 7647-01-0
Item Neg.: , 3; Listed
Item Neg..: , 75; Listed
Component: Ethanol CAS 64-17-5
Item Neg.: , 3; Listed
Item Neg..: , 40; Listed
Directive 2012/18/EU (SEVESO III) Annex I :
Substance/mixture is not covered by this legislation.
Component: ethanol CAS No 64-17-5
Requirements for low threshold devices: 5,000 tonnes; Part 1: Categories of hazardous substances; P5c: Flammable liquids, Category 2 or 3 not covered by P5a and P5b, The information given is valid, if the product is stored below its boiling point and at a pressure of 1013 hPa.
Requirements for high threshold establishments: 50,000 tonnes; Part 1: Categories of hazardous substances; P5c: Flammable liquids, Category 2 or 3 not covered by P5a and P5b, The information given is valid, if the product is stored below its boiling point and at a pressure of 1013 hPa.
Regulation (EU) No 649/2012 on export and import of dangerous chemicals :
Substance/mixture is not covered by this legislation.

Regulation (EC) No 273/2004, drug precursors, Category 3 :
Component: hydrochloric acid ... % CAS 7647-01-0
Code according to the list of the CN- nomenclature system (Combined Nomenclature): , 2806 10 00;
Designation according to the list of the CN nomenclature system (Combined Nomenclature):
EU. Regulation 98/8/EC, Annex 1, Active substances in biocidal products :
Component: hydrochloric acid ... % CAS 7647-01-0
Minimum purity: 999, g/kg; Disinfectants and algicides not intended for direct application to humans or animals;
Special provisions may apply; see legislative act.
Deadline for compliance: , 30 Apr 2016
Inclusion date: , 1 May 2014
Expiry date of Integration: , 30 Apr 2024
EU Regulation No 1451/2007 [biocidal products], Annex I, active substances identified as existing :
Component: hydrochloric acid ... % CAS 7647-01-0
EC no: , 231-595-7; Listed
Component: ethanol CAS No 64-17-5
EC no: , 200-578-6; Listed
Notification status hydrochloric acid:

Regulatory list	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	231-595-7
ENCS (JP)	YES	(1)-215
IECSC	YES	
INSQ	YES	
ISHL (JP)	YES	(1)-215
KECI (KR)	YES	97-1-203
KECI (KR)	YES	KE-20189
NZIOC	YES	HSR004090
ONT INV	YES	
PHARM (JP)	YES	
PICCS (PH)	YES	
TCSI	YES	
TH INV	YES	2806.10
TH INV	YES	55-1-05940
TSCA	YES	
VN INVL	YES	

15.2 Chemical safety assessment:
A chemical safety assessment has not been carried out.

SECTION 16: Other information

Indication of changes:
Aligning with regulation: Regulation (EC) No 1907/2006 (REACH), amended by 2020/878/EU

Integral text of sentences H and EUH:

Acute Tox. 4 (Oral):	Acute toxicity (oral), Category 4
Eye Dam. 1:	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2:	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2:	Flammable liquids, Category 2
With. Corr. 1:	Corrosive to metals, Category 1
Skin Corr. 1B:	Skin corrosion/irritation, Category 1, Subcategory 1B
Skin Irrit. 2:	Skin corrosion/irritation, Category 2
STOT SE 3:	Specific target organ toxicity by single exposure, Category 3, respiratory tract irritation
STOT SE 3:	Specific target organ toxicity by single exposure, Category 3, narcotic effect

H225:	Highly flammable liquid and vapour.
H290:	May be corrosive to metals.
H302:	Harmful if swallowed.
H314:	Causes severe burns and eye damage.
H315:	Causes skin irritation.
H318:	Causes serious eye damage.
H319:	Causes severe eye irritation.
H335:	May cause respiratory tract irritation.
H336:	May cause drowsiness or dizziness.

Abbreviations and acronyms

AU AIICL:	Australia. Industrial Chemicals Act (AIIC) List
BCF:	bioconcentration factor
BOD:	biochemical oxygen demand
CAS:	Chemical Abstracts Service
CLP:	classification, labelling and packaging
CMR:	carcinogenic, mutagenic or reprotoxic
COD:	chemical oxygen demand
DNE:L	Derived dose without effect
DSL:	Canada. Environmental Protection Act, Domestic Substances List
EINECS:	European Inventory of Existing Commercial Chemical Substances
ELINCS:	European list of notified substances
ENCS (JP):	Japan. Kashin-Hou Law List
GHS:	globally harmonised classification and labelling system for chemicals
IECSC:	China. Inventory of Existing Chemical Substances.
INSQ:	Mexico. National Inventory of Chemical Substances.
ISHL (JP):	Japan. Inventory of Industrial Safety & Health.
KECI (KR):	Korea. Existing Chemicals Inventory.
LC50:	lethal concentration 50%
LOAEC:	lowest concentration at which an adverse effect was observed
LOAEL:	lowest dose or concentration at which an adverse effect was observed
LOEL:	lowest dose or concentration at which an effect was observed
NDSL:	Canada. Environmental Protection Act. Non-Domestic Substances List.
NLP:	no longer polymer
NOAEC:	concentration at which no adverse effect was observed
NOAEL:	dose or concentration at which no adverse effect was observed
NOEC:	concentration with no observed effects
NOEL:	dose or concentration at which no effect was observed
NZIOC:	New Zealand. Inventory of Chemicals
OECD:	Organisation for Economic Co-operation and Development
OEL:	occupational exposure limit value
ONT INV:	Canada. Ontario Inventory List
PBT:	persistent, bioaccumulative and toxic
PHARM (JP):	Japan. Pharmacopoeia Listing
PICCS (PH):	Philippines. Inventory of Chemicals and Chemical Substances.
PNEC:	predicted no-effect concentration
REACH aut. no.:	REACH authorisation number
REACH council pl. No:.	REACH consultation number of application for authorisation
STOT:	specific target organ toxicity
SVHC:	substance of very high concern
TCSI:	Taiwan. Existing Chemicals Inventory.
TH INV:	Thailand. Existing Chemicals Inventory from FDA

TSCA US:	Toxic Substances Control Act
UVCB:	substance of unknown or variable composition, complex reaction products and biological materials
UN INVL:	Vietnam. National Chemical Inventory
zPzB:	very persistent and very bioaccumulative

Data sources:
Manufacturer/supplier: ASSYST bvba
Formatting: Quick.MSDS Sprl - Belgium info@quickmsds.de +32 (0) 479 469 465.

Training advice:
Normal use of this product involves only use as described on the product packaging. Before using consult the special instructions. Only use after reading and understanding all safety instructions.

Other information:
No additional information available. This safety data sheet has been prepared in accordance with the applicable European Directives and is applicable in all countries that have transposed these directives into their own legislation.

MSDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the application of health, safety and environmental aspects. It should therefore not be construed as a guarantee of any specific property of the product.