

## 1. Identification of the substance/preparation and of the company/undertaking

- 1.1 Identification of the substance/preparation
- 1.2 Use of the substance/preparation
- 1.3 Company/undertaking information
- 1.3.1 Responsible person
- 1.4 Emergency telephone
- 1.5 Date of issue/revision

# CILLIT FFW/TW

Liquid lime scale and rust remover, based on hydrochloric acid  
**BWT – AG, Walter Simmer Str. 4**  
**A-5310 Mondsee - AUSTRIA**  
 ☎ +43-6232-5011-0 Fax: +43-6232-5011-1229  
 Dipl. Ing. L. Nagl - ☎ +43-6232-5011-1505  
 e-mail: lois.nagl@bwt.at  
**Poison information center Vienna ☎ +43-1-406 43 43**  
**05.10.2007**

## 2. Possible Hazards

- 2.1 Hazards identification
- 2.2 Special hazards information for man and environment



C - Corrosive

Causes burns. Irritating to respiratory system. Toxic on fish and plankton. Harmful effect due to pH shift

## 3. Composition/Information on ingredients

### 3.1 Chemical characterisation (substance)

3.1.1 Description				
3.1.2 Hazardous ingredients	CAS-Nr.:	% mass	R-phrases	Symbol
Hydrochloric acid 30 %	7647-01-0	30	34-37	C
3.1.3 Identification numbers	EINECS No.:	231-595-7	EEC number:	017-002-01-X

## 4. First aid measures

- 4.1 **General recommendations**  
Personal protective equipment for rescuers. Treat eyes first, skin second. Remove contaminated clothing immediately. In all cases seek medical advice immediately.
- 4.2 **After inhalation**  
Remove the subject from the contaminated area immediately. Fresh air. Make victim drink plenty of water. Seek medical advice.
- 4.3 **After skin contact**  
Remove contaminated clothing, shoes. Wash affected skin with plenty of running water. Dab with polyethylene glycol 400
- 4.4 **After eye contact**  
Flush eyes with running water for 10-15 minutes immediately while keeping the eyelids wide open. Consult with an ophthalmologist immediately in all cases.
- 4.5 **After ingestion**  
Rinse mouth and make victim drink plenty of water. Do not induce vomiting (risk of perforation). Do not attempt to neutralize. Seek medical advice immediately in all cases. Gastric lavage.
- 4.6 **Advice to doctor**
- 4.6.1 **Effects**

Corrosive to mucous membrane, eyes, skin. Severe irritation of nose/throat. Spasmodic cough, difficulty in breathing. Risk of chemical pneumonitis and pulmonary oedema. Risk of serious or permanent eye lesions. Risk of severe burns. Perforation of the gastrointestinal tract accompanied by shock. Nausea, vomiting (bloody), abdominal cramps and diarrhea (bloody). Risk of throat edema and suffocation.

## 5. Fire fighting measures

- 5.1 **Suitable extinguishing media**  
Large quantities of water, water spray. Cool exposed containers with large quantities of water.
- 5.2 **Improprate extinguishing media**  
No restriction
- 5.3 **Specific hazards**  
Non combustible. Hydrogen may form upon contact with metals (danger of explosion). In case of fire HCl, chlorine may be formed.
- 5.4 **Special protective equipment**  
In all cases wear self-contained breathing apparatus and full protective resistant suit.

## 6. Accidental release measures

<b>6.1</b>	<b>Person-related precautionary measures</b>	Avoid skin/eye contact. Do not inhale vapours/aerosols. Provide sufficient ventilation and wear suitable respiratory equipment.
<b>6.2</b>	<b>Environmental precautions</b>	Do not discharge into the environment (sewers, rivers, soils ...)
<b>6.3</b>	<b>Methods for cleaning up/taking up</b>	Dampen large quantities of liquid with sand or earth. Collect the product with suitable means. Place everything into a closed, labelled container compatible with the product. Clean the area with large quantities of water.

## 7. Handling and storage

<b>7.1 Handling</b>		
7.1.1	Advice on safety handling	Never mix with other chemicals. Keep container dry and closed. Provide sufficient ventilation.
7.1.2	Advice on protection against fire and explosion	No special measures necessary. Heating leads to increasing pressure – danger of bursting. No smoking
<b>7.2 Storage</b>		
7.2.1	Requirements for storage rooms and vessels	Keep container tightly closed. Store in a ventilated, dry and cool area
7.2.2	Advice on storage compatibility	Keep away from alkaline and/or chlorine products
7.2.3	Further information on storage conditions	Keep only in the original containers Never fill into other containers No metal containers

## 8. Exposure controls and personal protection

<b>8.1 Additional advice on system design</b>		
<b>8.2 Ingredients with occupational exposure</b>		
8.2.1	CAS-No., Hazardous ingredient, Code, Value, Unit	7647-01-0, Hydrogen chloride, TLV = 7 mg/m <sup>3</sup> (5 ml/m <sup>3</sup> )
8.2.2	Additional informations	
<b>8.3 Personal protection equipment</b>		
8.3.1	Respiratory protection	Face mask when vapours/aerosols are generated
8.3.2	Hand protection	Protective acid resistant gloves (PVC, natural rubber)
8.3.3	Eye protection	Wear chemical proof eye/face protection
8.3.4	Skin protection	Wear suitable acid resistant protective clothing
8.3.5	General protective measures	Keep away from food, drink and animal feedingstuffs Do not breathe gas/fumes/vapour/spray
8.3.6	Hygiene measures	Do not eat/drink while working Wash hands after work/before breaks Apply skin protective cream

## 9. Physical and chemical properties

<b>9.1 Appearance</b>		
9.1.1	Form	-
9.1.2	Colour	slightly brown
9.1.3	Odour	pungent
<b>9.2 Data relevant for safety</b>		
9.2.1	pH-value	T=20°C < 1 (undiluted)
9.2.2	Changes in physical state	n.a.
	Crystallization point	n.a.
9.2.3	Flash point	n.a.
9.2.4	Ignition (solid/gas)	n.d.
9.2.5	Ignition temperature	n.a.
9.2.6	Autoignition (solid/gas)	n.a.
9.2.7	Oxidizing properties	n.a.
9.2.8	Explosive properties	n.a.
9.2.9	Explosive limits	Lower e.l./Upper e.l.: none
9.2.10	Vapour pressure	(Tl) 20°C approx. 20 mbar
9.2.11	Density	(Tl) 20°C 1.16 g/cm <sup>3</sup>
9.2.12	Solubility in water	T=25°C completely miscible
9.2.13	Partition coefficient (log p <sub>OW</sub> )	n.a.
9.2.14	Viscosity	T=20°C n.d.
9.2.15	Solvent separation test	n.a.
9.2.16	Solvent concentration	n.a.

## 10. Stability and reactivity

<b>10.1</b>	<b>Conditions to avoid</b>	Mixing with other chemicals. Heating. Contact with chlorine and alkaline products
<b>10.2</b>	<b>Materials to avoid</b>	Aluminium, amines, carbides, hydrides, fluorine, alkali metals, metals, KMnO <sub>4</sub> , strong alkalis, salts of oxyhalogenic acids, conc. sulfuric acid, semimetallic hydrogen compounds, semimetallic oxides, aldehydes, sulfides, lithium silicide, vinylmethyl ether
<b>10.3</b>	<b>Hazardous decomposition products</b>	In case of fire: hydrochloric acid, chlorine

## 11. Toxicological information

<b>11.1</b>	<b>Toxicity test</b>	
11.1.1	Acute toxicity (LD <sub>50</sub> /LC <sub>50</sub> values relevant to classification)	Acute toxicity LC <sub>50</sub> : (inhalation, rat) 3124 ppm (V)/l h (calculated on the pure substance)
11.1.2	Specific symptoms in biological assay	
11.1.3	Irritability/Corrosiveness	Eye: strongly corrosive; Skin: corrosive
11.1.4	Sensitization	No sensibilization known
11.1.5	Effects after short- or long-term exposure	<u>Skin contact</u> : burns <u>Eye contact</u> : burns, risk of blindness <u>Ingestion</u> : burns of mouth, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach. After a latency period: cardiovascular failure
11.1.6	Mutagenity, teratogenity, carcinogenity	
<b>11.2</b>	<b>Experiences made in praxis</b>	
11.2.1	Observations important for validation	After ingestion irritation of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract

## 12. Ecological information

<b>12.1</b>	<b>Data on elimination (persistence and degradability)</b>	
<b>12.2</b>	<b>Behaviour in environmental compartments</b>	
<b>12.3</b>	<b>Ecotoxicological effects</b>	
12.3.1	Aquatic toxicity	Toxic on fish and plankton. Harmful effect due to pH shift Forms corrosive mixtures with water even if diluted. Damage to plant growth. Does not cause biological oxygen deficit. Fish toxicity: hydrochloric acid lethal for fish as from 25 mg/l
12.3.2	Behaviour in sewage plant	Do not allow to enter sewage system. A harmful effect on aquatic organisms/activated sludge cannot be excluded in case of improper handling or disposal
<b>12.4</b>	<b>Further information/ecology</b>	
12.4.1	COD-value	mg/kg -
12.4.2	BOD-values	mg/g -
12.4.3	AOX	-
12.4.4	Contains following heavy metals and compounds of 76/464 EWG	-
12.4.5	General informations	Follow local regulations. Do not allow the undiluted/not neutralized product to enter sewerage systems, sewers, groundwater, rivers, soils, drinking water supplies.

## 13. Disposal considerations

<b>13.1</b>	<b>Product</b>	-
13.1.1	Recommendations	There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated individually in the EC member countries. We recommend to contact the local authorities in charge or approved waste disposal company European waste catalogue: 06 01 02* - hydrochloric acid
<b>13.2</b>	<b>Contaminated packaging</b>	
13.2.1	Recommendations	Disposal in compliance with official regulations. Handle contaminated packaging like the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.
13.2.2	Recommended cleansing agent	Water

## 14. Transport information


### 14.1 Land transport (ADR/RID/GGVs/GGVE)

	
14.1.1 Class	8
14.1.2 Packing group	II
14.1.3 Hazard No.	80
14.1.4 UN/ID-No.	1789
14.1.5 Identification	HYDROCHLORIC ACID

### 14.2 Marine transport IMDG/GGVSee


	
14.2.1 Class	8
14.2.2 UN/ID-No.	1789
14.2.3 PG.:	II
14.2.4 EMS	S-A; S-B
14.2.5 MFAG:	700
14.2.6 Marine pollutant	-
14.2.7 Proper shipping name	HYDROCHLORIC ACID

### 14.3 Air transport (ICAO/IATA)

	
14.3.1 Class	8
14.3.2 UN/ID-No.	1789
14.3.3 PG:	II
14.3.4 Proper name	HYDROCHLORIC ACID

## 15. Regulatory information

### 15.1 Labelling according to EC-regulations

15.1.1 Labelling	Labelling according to EC directives
15.1.2 Symbols and hazard classification	 C - corrosive
15.1.3 Hazardous component(s) to be indicated on label	Hydrochloric acid
15.1.4 R-phrases	R 34 Causes burns R 37 Irritating to respiratory system
15.1.5 S-phrases	S 1/2 Keep locked up and out of the reach of children S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
<b>15.2 National regulations</b>	
15.2.1 Restriction of occupation	-
15.2.2 Degree of interference/remarks	-
15.2.3 Classification according to VbF/remarks	-
15.2.5 Water hazard class (germany only)	WGK 1: slightly polluting substance (own classification)

## 16. Other regulations, restrictions and prohibition regulations

16.1 List of relevant R-phrases	R 34 Causes burns R 37 Irritating to respiratory system
16.2 Changed items	1-2-3

*The information of this safety data sheet is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precaution. It does not represent a guarantee of the properties of the product.*