SAFETY DATA SHEET

Version: 1.1
Date Written: 22nd March 2012
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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name	**LudgerClean cartridges with 1M HCl**
Product Catalogue Name	**LC-CEX-A6, LC-CEX-H-01**
Company:	Ludger Ltd Culham Science Centre Abingdon Oxfordshire OX14 3EB
Telephone:	01865 408554
Emergency Telephone:	01865 408554
Email:	info@ludger.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Skin corrosion (category 1B)
Specific target organ toxicity – single exposure (Category 3)

2.2 Label elements

Signal Word: Danger

Hazard Statement(s)

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

Precautionary Statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305+P315+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 CENTRE or doctor/ physician.

2.3 Other hazard information:
None.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms:	Hydrochloric acid:	HCl
	Resin:	AG Cation exchange resin, hydrogen form

Formula: Hydrochloric acid: HCl
Molecular Weight: HCl: 36.46g/mol

Component		Classification	Concentration
Name	CEX Resin	-	> 97 %
CAS-No.	none		
EC-No.	none		
2nd Name	Hydrochloric Acid	Skin Corr. 1B; STOT SE3; H314,	1 – 3 %
CAS-No.	7647-01-0	H335	
EC-No.	231-595-7		
Index-No.	017-002-01-X		

For the full text of the H-statements mentioned in this section, Sections 2 and 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of First Aid Measures

General Advice
Consult a physician if exposure causes ill effects and if in any doubt. Show this safety data sheet to the physician/ first responder in attendance.

If Ingested
Do NOT induce vomiting. Do not give anything by mouth if the person is unconscious. Rinse mouth well with water.

If the skin is exposed
Remove contaminated clothing and shoes immediately. Wash the area well with plenty of soap and water.

If eyes are exposed
Rinse thoroughly with water or eye wash, for at least 15 minutes. Remove contact lenses if present and continue rinsing.

If inhaled
Remove the person to a source of fresh air/ ventilation. If not breathing, give artificial respiration.

4.2 Most important symptoms and effects, both acute and delayed
Burning sensation, coughing and difficulty breathing. This product can be destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin.

4.3 Indication of immediate medical attention and special treatment needed
No data available.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Select an extinguisher whose media is compatible with the surroundings of the fire. Compatible fire extinguisher media are Carbon dioxide, alcohol-resistant foam, and water spray.

5.2 Special hazards arising from the substance or mixture
Hydrogen Chloride gas

5.3 Advice for Firefighters
If necessary, firefighters are to wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear personal protective equipment. Avoid breathing in vapours, mist or gas by ensuring adequate ventilation. Move any unrequired staff away from the spill area.

6.2 Environmental Precautions
Prevent any further leakage if practical and safe to do so. Do not let the product enter the drainage system.

6.3 Methods and material for containment and cleaning up
Soak up the spillage by using an inert absorbent material, such as vermiculite. Collect the waste material and store it in a suitable container with a lid, and arrange for collection and disposal.

6.4 Reference to other sections
For information on disposal see Section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin, eyes and inhalation of vapour or mist. Wear PPE.

7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated place at 2 – 8 °C. Cartridges must be stored horizontally.

7.3 Specific end uses
No data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Hydrochloric Acid	7647-01-0	TWA	5 ppm 8 mg/m3	Europe. Commission Directive 2009/39/EC establishing a first list of inductive occupational limit values.
	Remarks	Indicative		
		STEL	10 ppm 15 mg/m3	Europe. Commission Directive 2009/39/EC establishing a first list of inductive occupational limit values.
		Indicative		

		TWA	1 ppm 2 mg/m3	UK. EH40 WEL- Work-place Exposure Limits
		Indicative		
		STEL	5 ppm 8 mg/m3	UK. EH40 WEL- Work-place Exposure Limits

8.2 Exposure controls

Appropriate engineering controls
Handle the product following good laboratory and safety practices. Wash hands before and after handling the product, even with wearing gloves.

Personal Protective Equipment
Eye/face protection
Wear fitted safety goggles/ glasses when handling the product. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection
Wear gloves when handling the product. Gloves must be inspected before use for tears/ holes and proper glove removal technique to be employed, to avoid skin contact with the product. Dispose of used gloves as contaminated waste (See section 13), wash and dry hands. Gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Wear a laboratory coat or similar covering over clothing when handling the product.

Respiratory protection
Handle the product whilst using a fume cupboard/extraction hood.

Thermal hazards
No data available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: Solid and Liquid Colour: Pale orange
Odour	Pungent
Odour threshold	No data available
pH	No data available
Freezing/Melting Point	-30°C
Initial boiling point and boiling range	No data available
Flash Point	No data available
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Vapour Pressure	No data available
Vapour Density	No data available
Relative Density	No data available

Solubility in water	Fully miscible.
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	None
Oxidising properties	No data available

9.2 Other information
No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable when stored in recommended conditions.

10.3 Possibility of Hazardous Reactions
No data available

10.4 Conditions to Avoid
Excessive humidity and heat. Store at the correct temperature, 2 – 8 °C.

10.5 Incompatible materials
Bases, Amines, Alkali metals, Metals, permanganates, e.g. potassium permanganate, Fluorine, metal acetylides, hexalithium disilicide.

10.6 Hazardous decomposition products
Other decomposition products - No data available

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
Hydrochloric acid: LD50 Oral – Rabbit – 900mg/kg

Skin corrosion/irritation
No data available

Serious eye damage/irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP or EPA classification.
IARC: 3 – Group 3: Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity
No data available

STOT-single exposure
Inhalation – May cause respiratory irritation.

STOT-repeated exposure
No data available

Aspiration hazard
No data available

Potential Health Hazards

Inhalation	Harmful if inhaled. Material is destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion	Harmful if swallowed. Causes burns.
Skin	Harmful if absorbed through the skin. Causes skin burns.
Eyes	Causes burns to the eyes**.**

Signs and symptoms of exposure
Burning sensation, coughing, breathing problems, inflammation of the larynx and bronchi. The product is destructive to the tissue of the mucous membranes and upper respiratory tract, eyes and skin.

Additional Information
RTECS: MW4025000

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
Hydrochloric acid: Toxicity to Fish
LC50 – Gambusia affinis (mosquito Fish) – 282 mg/l – 96h

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

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods
Contact a licensed professional disposal company of waste chemical (solid and liquid) materials, to arrange collection and disposal of waste products.

Contaminated packaging

Dispose of it as an unused product.

SECTION 14. TRANSPORT INFORMATION

This information is for HCl as the CEX resin has no classification.

14.1 UN Number
ADR/RID: 1789 IMDG: 1789 IATA: 1789

14.2 UN Proper Shipping Name
ADR/RID: HYDROCHLORIC ACID
IMDG: HYDROCHLORIC ACID
IATA: Hydrochloric Acid

14.3 Transport hazard class(es)
ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packing group
ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID: No IMDG Marine pollutant: No IATA: No

14.6 Special precautions for user
No data available

SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific to the substance or mixture
No data available

15.2 Chemical Safety Assessment
No data available

Please note that the label elements that used to go in Section 15 are now in Section 2.

SECTION 16. OTHER INFORMATION

The advice offered is derived from the currently available information on the hazardous materials in this product and its component(s). Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore not all-inclusive nor should it be taken as the descriptive of the compound generally.

Hazard Statement(s)

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Precautionary Statement(s)

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