MATERIAL SAFETY DATA SHEET

Perchloric acid

SECTION 1: Identification of the substance/mixture and of the company/undertaking			
1.1	**Product identifiers**		
	Product name	:	Perchloric acid
	Brand	:	LABORT
	CAS-No.	:	7601-90-3
1.2	**Relevant identified uses of the substance or mixture and uses advised against**		
	Identified uses	:	Laboratory chemicals, Manufacture of substances
1.3	**Details of the supplier of the safety data sheet**		
	LABORT FINE CHEM PVT LTD. 703-704 ICON BUSINESS CENTRE, OPP. CENTRAL MALL, NR. VALENTINE CINEMA, DUMAS ROAD, SURAT - 395007, (GUJARAT), INDIA. **PH:** 0091-261-2725761; 2725388 **FAX:** 0091-261-2725388 **E MAIL:** info@laboratorychemical.net **WEBSITE:** www.laboratorychemical.net		
1.4	**Emergency telephone number**		
	Emergency Phone #	:	**091-261-2725388**
SECTION 2: Hazards identification			
2.1	**Classification of the substance or mixture**		
	Classification according to Regulation (EC) No 1272/2008 Oxidizing liquids (Category 1), H271 Corrosive to metals (Category 1), H290 Acute toxicity, Oral (Category 4), H302 Skin corrosion (Sub-category 1A), H314 Serious eye damage (Category 1), H318 Specific target organ toxicity - repeated exposure (Category 2), Thyroid, H373		
2.2	**Label elements**		
	Labelling according Regulation (EC) No 1272/2008		
	Pictogram	:	
	Signal word	:	Danger
	Hazard statement(s)		
	H271 May cause fire or explosion; strong oxidizer. H290 May be corrosive to metals.		

	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H373 May cause damage to organs (Thyroid) through prolonged or repeated exposure.			
	Precautionary statement(s)			
	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. P314 Get medical advice/ attention if you feel unwell.			
	Supplemental Hazard statements			
	None			
2.3	**Other hazards**			
	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.			
SECTION 3: Composition/information on ingredients				
3.1	**Substances**			
	Synonyms	:	PCA	
	Molecular weight	:	100,46 g/mol	
	CAS-No.	:	779-02-2	
	Hazardous ingredients according to Regulation (EC) No 1272/2008			
	Component	Classification		Concentration
	Perchloric acid	Ox. Liq. 1; Met. Corr. 1; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; STOT RE 2; H271, H290, H302, H314, H318, H373 Concentration limits: >= 50 %: Skin Corr. 1A, H314; 10 - < 50 %: Skin Corr. 1B, H314; 1 - < 10 %: Skin Irrit. 2, H315; 1 - < 10 %: Eye Irrit. 2, H319; > 50 %: Ox. Liq. 1, H271; <= 50 %: Ox. Liq. 2, H272; 1 - 50 %: Ox. Liq. 2, H272;		>= 70 - < 90 %
SECTION 4: First aid measures				
4.1	**Description of first aid measures**			

	General advice Consult a physician. Show this safety data sheet to the doctor in attendance. **If inhaled** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. **In case of skin contact** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician. **In case of eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. **If swallowed** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2	**Most important symptoms and effects, both acute and delayed** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3	**Indication of any immediate medical attention and special treatment needed** No data available
SECTION 5: Firefighting measures	
5.1	**Extinguishing media** **Suitable extinguishing media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. **Unsuitable extinguishing media** High volume water jet
5.2	**Special hazards arising from the substance or mixture** Chlorine Hydrogen chloride gas Container explosion may occur under fire conditions. Not combustible.
5.3	**Advice for firefighters** Wear self-contained breathing apparatus for firefighting if necessary.
5.4	**Further information** Use water spray to cool unopened containers.
SECTION 6: Accidental release measures	
6.1	**Personal precautions, protective equipment and emergency procedures** Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.
6.2	**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
6.3	**Methods and materials for containment and cleaning up** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13).
6.4	**Reference to other sections** For disposal see section 13.
SECTION 7: Handling and storage	
7.1	**Precautions for safe handling** Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. For precautions see section 2.2.
7.2	**Conditions for safe storage, including any incompatibilities** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

	Recommended storage temperature: 5 - 30°C
7.3	**Specific end use(s)** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
SECTION 8: Exposure controls/personal protection	
8.1	**Control parameters**
	Components with workplace control parameters
8.2	**Exposure control**
	Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
	Personal protective equipment
	Eye/face protection Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). **Skin protection** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Full contact Material: butyl-rubber Minimum layer thickness: 0,3 mm Break through time: > 480 min Splash contact Material: Nature latex/chloroprene Minimum layer thickness: 0,6 mm Break through time: 420 min **Body Protection** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. **Respiratory protection** Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). **Control of environmental exposure** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
SECTION 9: Physical and chemical properties	
9.1	**Information on basic physical and chemical properties**

	Appearance Form	Form: liquid, clear Colour: colourless
	Odour	No data available
	Odour Threshold	No data available

	pH	No data available
	Melting point/freezing point	-18 °C
	Initial boiling point and boiling range	ca.203 °C at 1.013 hPa
	Flash point	No data available
	Evaporation rate	No data available
	Flammability (solid, gas)	No data available
	Upper/lower flammability or explosive limits	No data available
	Vapour pressure	9,1 hPa at 25 °C
	Vapour density	No data available
	Relative density	1,664 g/cm3 at 25 °C
	Water solubility	completely miscible
	Partition coefficient: noctanol/water	No data available
	Auto-ignition temperature	No data available
	Decomposition temperature	No data available
	Viscosity	No data available
	Explosive properties	No data available
	Oxidizing properties	The substance or mixture is classified as oxidizing with the category 1.
9.2	**Other safety information**	
	No data available	
SECTION 10: Stability and reactivity		
10.1	**Reactivity** No data available	
10.2	**Chemical stability** Stable under recommended storage conditions.	
10.3	**Possibility of hazardous reactions** Amines and alcohols cause exothermic reactions.	
10.4	**Conditions to avoid** No data available	
10.5	**Incompatible materials** Strong bases, Strong acids, Amines, Phosphorus halides, Alcohols, Organic materials, Powdered metals, Strong reducing agents	
10.6	**Hazardous decomposition products** Hazardous decomposition products formed under fire conditions. - Chlorine Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas Other decomposition products - No data available In the event of fire: see section 5	
SECTION 11: Toxicological information		
11.1	**Information on toxicological effects** **Acute toxicity** LD50 Oral - Rat - < 2.000 mg/kg	

	(OECD Test Guideline 423) **Skin corrosion/irritation** Extremely corrosive and destructive to tissue. **Serious eye damage/eye irritation** Corrosive **Respiratory or skin sensitisation** No data available **Germ cell mutagenicity** Ames test Salmonella typhimurium Result: negative **Carcinogenicity** IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **Reproductive toxicity** No data available **Specific target organ toxicity - single exposure** No data available **Specific target organ toxicity - repeated exposure** May cause damage to organs through prolonged or repeated exposure. – Thyroid **Aspiration hazard** No data available **Additional Information** RTECS: Not available burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information		
12.1	**Toxicity**	
	Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
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** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.	
12.6	**Other adverse effects** Do not empty into drains. Neutralisation will not reduce ecotoxic effects.	
SECTION 13: Disposal considerations		

13.1	**Product** Offer surplus and non-recyclable solutions to a licensed disposal company. **Contaminated packaging** Dispose of as unused product.		
SECTION 14: Transport information			
14.1	**UN number**		
	ADR/RID: 1873	IMDG: 1873	IATA: 1873
14.2	**UN proper shipping name**		
	ADR/RID: PERCHLORIC ACID IMDG: PERCHLORIC ACID IATA: Perchloric acid Passenger Aircraft: Not permitted for transport		
14.3	**Transport hazard class(es)**		
	ADR/RID: 5.1 (8)	IMDG: 5.1 (8)	IATA: 5.1 (8)
14.4	**Packaging group**		
	ADR/RID: I	IMDG: I	IATA: I
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			
15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)		
15.2	**Chemical safety assessment** For this product a chemical safety assessment was not carried out.		
SECTION 16: Other information			
	Further information LABORT FINE CHEM PVT LTD. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. LABORT FINE CHEM PVT LTD. Makes no representations or warranties, either express or implied, including without limitation any warranties or merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, LABORT FINE CHEM PVT LTD. will not be responsible for damages resulting from use of or reliance upon this information. Revised on: 13/07/2020 Revision: 01		