

LIQUINAT® L50

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2.0	05/08/2018	100000000304	03/06/2015
US / EN			Date of first issue: 02/25/2015

SECTION 1. IDENTIFICATION

Product name : LIQUINAT® L50

Substance name : Citric Acid Solution 50%

Chemical nature : Liquid

Manufacturer or supplier's details**Details of the supplier of the safety data sheet**

Company : Jungbunzlauer Inc.
7 Wells Avenue
Newton Centre, Massachusetts 02459
USA
www.jungbunzlauer.com

Telephone : +1 617 969-0900

Telefax : +1 617 964-2921

E-mail address Responsible/issuing person : msds@jungbunzlauer.com

Emergency telephone number

Emergency telephone number : National Chemical Emergency Centre (NCEC)
+1 202 464 2554

Recommended use of the chemical and restrictions on use

Recommended use : Food/ feedstuff additives
Cosmetic additive
Medical aids
Industrial use

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Eye irritation : Category 2

Corrosive to metals : **Category 1**

GHS label elements

Hazard pictograms :



Signal word :

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Warning	
Hazard statements	: H319 Causes serious eye irritation. H290 May be corrosive to metals.
Precautionary statements	: Prevention: P264 Wash hands thoroughly after handling. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P234 Keep only in original container. Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/ attention. P390 Absorb spillage to prevent material damage. Storage: P406 Store in corrosive resistant stainless steel container with a resistant inner liner.

Hazards Not Otherwise Classified

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
 Substance name : Citric Acid Solution 50%
 Chemical nature : Liquid

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Citric acid anhydrous	77-92-9	50
Non-hazardous ingredients		
H2O	7732-18-5	50

SECTION 4. FIRST AID MEASURES

General advice : Avoid inhalation, ingestion and contact with skin and eyes.
Consult a physician.

If inhaled : Move to fresh air in case of accidental inhalation of vapours or decomposition products.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty

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of water.

- In case of eye contact : If easy to do, remove contact lens, if worn.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : Drink plenty of water.
If swallowed, DO NOT induce vomiting.
- Most important symptoms and effects, both acute and delayed : Eye irritation may cause mild and mechanical irritation and thus symptoms which would be redness and pain.
Causes serious eye irritation.
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Dry powder
Foam
Carbon dioxide (CO₂)
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Hazardous decomposition products formed under fire conditions.
- Hazardous combustion products : Carbon dioxide (CO₂)
Carbon monoxide
- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
In the event of fire and/or explosion do not breathe fumes.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Wear fire resistant or flame retardant clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid contact with skin and eyes.
Avoid inhalation of vapour or mist.
Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : No special environmental precautions required.
Prevent further leakage or spillage if safe to do so.
- Methods and materials for : Neutralize with lime milk or soda and flush with plenty of wa-

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containment and cleaning up : ter.
After cleaning, flush away traces with water.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours or spray mist.
Wear personal protective equipment.
For personal protection see section 8.

Conditions for safe storage : Store in original container.
Keep in an area equipped with acid resistant flooring.

Materials to avoid : Incompatible with bases.

Recommended storage temperature : > 41 °F

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

Engineering measures : Provide adequate ventilation.

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Hand protection

Remarks

: Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Eye protection

: Safety glasses
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection

: Wear suitable protective clothing.
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

: Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and immediately after handling

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the product.
Remove contaminated clothing and protective equipment
before entering eating areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Aqueous solution
Colour	:	colourless
Odour	:	none
Odour Threshold	:	Not relevant
pH	:	< 1 (77 °F)
Melting point/range	:	Not applicable
Boiling point/boiling range	:	216 - 226 °F
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (liquids)	:	not auto-flammable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.23 - 1.25 g/cm ³ (68 °F)
Solubility(ies)	:	
Water solubility	:	completely miscible
Partition coefficient: n- octanol/water	:	log Pow: -1.8 - -0.2 Calculation
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	7 - 10 mPa.s (77 °F)
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available

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STOT - single exposure**Components:****Citric acid anhydrous:**

No data available

STOT - repeated exposure**Components:****Citric acid anhydrous:**

No data available

Repeated dose toxicity**Components:****Citric acid anhydrous:**

Species: Rat
NOAEL: 4,000 mg/kg
LOAEL: 8,000 mg/kg
Application Route: Oral
Exposure time: 10 d
Dose: 2, 4, 8, 16 g/kg bw/day

Aspiration toxicity**Components:****Citric acid anhydrous:**

No aspiration toxicity classification

Experience with human exposure**Product:**

- | | | |
|--------------|---|--|
| Inhalation | : | Target Organs: Respiratory system
Symptoms: No information available. |
| Skin contact | : | Target Organs: Skin
Symptoms: May cause skin irritation in susceptible persons. |
| Eye contact | : | Target Organs: Eyes
Symptoms: Redness, Itching |
| Ingestion | : | Target Organs: Digestive organs
Symptoms: No information available. |

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Components:**Citric acid anhydrous:**

Bioaccumulation : The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

Mobility in soil

No data available

Other adverse effects**Components:****Citric acid anhydrous:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

: This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Additional ecological information : This product has no known ecotoxicological effects.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Where possible recycling is preferred to disposal or incineration. Can be landfilled or incinerated, when in compliance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

UN/ID No. : UN 3265
Proper shipping name : Corrosive liquid, acidic, organic, n.o.s.
Class : 8
Packing group : III
Labels : Corrosives
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852

IMDG-Code

UN number : UN 3265
Proper shipping name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

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Class	: 8
Packing group	: III
Labels	: 8
EmS Code	: F-A, S-B
Marine pollutant	: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**DOT**

UN/ID/NA number	: UN 3265
Proper shipping name	: Corrosive liquid, acidic, organic, n.o.s. (Citric Acid Anhydrous)
Class	: 8
Packing group	: III
Labels	: CORROSIVE
ERG Code	: 153
Marine pollutant	: no
Remarks	: Exempt from placarding by the DOT as per 49 CFR 173.154 (d) (2)

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act****SARA 311/312 Hazards** : Acute Health Hazard**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**Clean Water Act**

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.**The components of this product are reported in the following inventories:**

EINECS : On the inventory, or in compliance with the inventory

TSCA : On TSCA Inventory

TSCA_12b : Not applicable

DSL : All components of this product are on the Canadian DSL

REACH : On the inventory, or in compliance with the inventory

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SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.