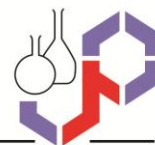


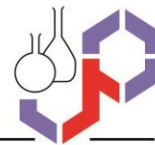
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MATERIAL SAFETY DATA SHEET	
1	IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
1.1	Product identifiers
	Product Name DL-Isocitric acid Trisodium salt
	CAS NO. 1637-73-6
1.2	Relevant identified uses of the substance or mixture and uses advised against.
	Identified uses 1. DL-Isocitric acid Trisodium salt useful as a marker for determining is citrate composition. 2. It is used in Laboratory Reagent. 3. Isocitric acid is the protonated analogue of is citrate, a substrate of the citric acid cycle.
1.3	Details of the supplier of the safety data sheet.
	COMPANY DR. J. PHARMACHEM (INDIA). 722/AB/15 'NIRMAL' ,LAXMI PARK COLONY, NAVI PETH , PUNE- 411 030.INDIA Telephone : 020-24530071 Fax : 020-24530110.
2	HAZARDS IDENTIFICATION
2.1	Classification of the substance or mixture
	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.
2.2	Label elements
	The product does not need to be labelled in accordance with EC directives or respective national laws.
2.3	Other hazards None.
3	COMPOSITION/INFORMATION ON INGREDIENTS
3.1	Substances
	Synonyms Threo-DIs-Isocitric Acid Trisodium Salt Trisodium DI-Isocitrate;
	Formula $C_6H_5O_7Na_3$
	Molecular Weight 258.07g/mol.
	Component Concentration
	DL-Isocitric acid Trisodium salt $\leq 100\%$
	CAS- NO 1637-73-6
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.



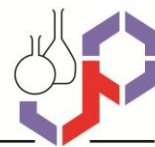
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	In case of skin contact	Wash off with soap and plenty of water.
	In case of eye contact	Flush eyes with water as a precaution.
	If swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water.
4.2	Most important symptoms 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.	
5	FIREFIGHTING MEASURES	
5.1	Extinguishing media	
	Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2	Special hazards arising from the substance or mixture	Carbon oxides, Sodium oxides
5.3	Advice for fire-fighters	Wear self contained breathing apparatus for fire fighting if necessary.
5.4	Further information	No data available.
6	ACCIDENTAL RELEASE MEASURES	
6.1	Personal precautions, protective equipment and emergency procedures	
	Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.	
6.2	Environmental precautions	
	Do not let product enter drains.	
6.3	Methods and materials for containment and cleaning up	
	Sweep up and shovel. Keep in suitable, closed containers for disposal.	
6.4	Reference to other sections	
	For disposal see section 13.	
7	HANDLING AND STORAGE	
7.1	Precautions for safe handling	
	Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.	
7.2	Conditions for safe storage, including any incompatibilities	
	Keep container tightly closed in a dry and well-ventilated place. Store in cool place.	
7.3	Specific end users-	
	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.	
8	EXPOSURE CONTROLS/PERSONAL PROTECTION	
8.1	Control parameters	
	Components with workplace control parameter	
8.2	Exposure control	



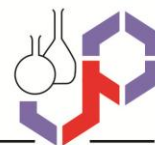
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	Appropriate engineering controls	
	General industrial hygiene practice.	
	Personal protective equipment	
	Eye/face protection	
	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).	
	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. Aldrich - 458333 Page 3 of 5 The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.	
	Body Protection	
	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.	
	Respiratory protection	
	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected According to the concentration and amount of the dangerous substance at the specific workplace.	
	Control of environmental exposure	
	Do not let product enter drains.	
9	PHYSICAL AND CHEMICAL PROPERTIES	
	Information on basic physical and chemical properties	
a)	Appearance	Form: Solid. (Crystalline powder.) Colour: white.
b)	Odour	odourless
c)	Odour Threshold	No data available.
d)	pH (5% solution in water)	No data available.
e)	Melting point/freezing point	No data available.
f)	Initial boiling point and boiling range	329.6°C at 760 mmHg.
g)	Flash point	No data available.
h)	Evaporation rate	No data available.
i)	Flammability (solid, gas)	May be combustible at high temperature.
j)	Upper/lower flammability or explosive limits	No data available.
k)	Vapour pressure	No data available.
l)	Vapour density	No data available.
m)	Relative density	1.751g/cm ³ .
n)	Water solubility	Soluble in water (100 mg/ml).



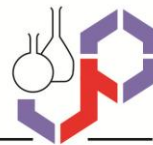
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o)	Partition coefficient: noctanol/water	No data available.
p)	Auto ignition temperature	No data available.
q)	Decomposition temperature	No data available.
r)	Viscosity	No data available.
s)	Explosive properties	No data available.
t)	Oxidizing properties	No data available.
9.2	Other safety information	
	SMILES	C(C(C(C(=O)[O-])O)C(=O)[O-])C(=O)[O-].[Na+].[Na+].[Na+]
	Inch I	No data available.
	EC NO.	216-668-3.
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	No data available.
10.4	Conditions to avoid	No data available.
10.5	Incompatible materials	Strong oxidizing agents.
10.6	Hazardous decomposition products	Other decomposition products - no data available In the event of fire: see section 5.
11	TOXICOLOGICAL INFORMATION	
11.1	Information on toxicological effects	
	Acute toxicity	No data available.
	Skin corrosion/irritation	No data available.
	Serious eye damage/eye irritation	No data available.
	Respiratory or skin sensitization	No data available.
	Germ cell mutagenicity	No data available.
	Carcinogenicity	
	IARC	No component of this product presents 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	No data available.
	Aspiration hazard	No data available.
	Additional Information	
	RTECS	No data available.
12	ECOLOGICAL INFORMATION	
12.1	Toxicity	No data available.
12.2	Persistence and degradability	No data available.



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12.3	Bio accumulative potential	No data available.	
12.4	Mobility in soil	No data available.	
12.5	Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted	
12.6	Other adverse effects	No data available.	
13	DISPOSAL CONSIDERATIONS		
13.1	Waste treatment methods		
	Product	Offer surplus and non-recyclable solutions to a licensed disposal company.	
	Contaminated packaging	Dispose of as unused product.	
14	TRANSPORT INFORMATION		
14.1	UN number		
	ADR/RID	IMDG	IATA
14.2	UN proper shipping name		
	ADR/RID	IMDG	IATA
	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.3	Transport hazard class(es)		
	ADR/RID	IMDG	IATA
14.4	Packaging group		
	ADR/RID	IMDG	IATA
14.5	Environmental hazards		
	ADR/RID	IMDG Marine pollutant	IATA
	No	No	No
14.6	Special precautions for user	No data available.	
15	REGULATORY INFORMATION		
	This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.		
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture.	No data available.	
15.2	Chemical Safety Assessment	For this product a chemical safety assessment was not carried out.	
16	OTHER INFORMATION		
	Further information	Copyright 2014 Dr J Pharmachem India. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Dr J Pharmachem	



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