

**SAFETY DATA SHEET**

According to 1907/2006/EC, Article 31

Revision number: 5

Revision date: 07/29/2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name: Calix[4]arene (contains ca. 8% Chloroform)
 Product code: C1455

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Reagents

1.3 Details of the supplier of the safety data sheet**Supplier:**

TCI Chemicals (India) Pvt. Ltd.
 Plot No. B-28, Phase II,
 5th Cross Street, MEPZ-SEZ, Tambaram,
 Chennai, Tamilnadu - 600045
 India
 Telephone: +91-44-2262 0909

1.4 Emergency telephone number: +91-44-2262 0909

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****PHYSICAL HAZARDS**

Not classified

HEALTH HAZARDS

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2

Germ cell mutagenicity

Category 2

Carcinogenicity

Category 2

Reproductive toxicity

Category 2

Specific target organ toxicity

Liver, Kidney

- Single exposure [Category 1]

Specific target organ toxicity

Narcotic effects

- Single exposure [Category 3]

Specific target organ toxicity

Liver, Respiratory system, Kidney, Central nervous system

- Repeated exposure [Category 1]

ENVIRONMENTAL HAZARDS

Acute aquatic hazard

Category 3

Long-term aquatic hazard

Category 3

2.2 Label elements**Pictograms or hazard symbols****Signal word**

Danger

Hazard statements

H315-Causes skin irritation.
 H319-Causes serious eye irritation.
 H341-Suspected of causing genetic defects.
 H351-Suspected of causing cancer.
 H361fd-Suspected of damaging fertility. Suspected of damaging the unborn child.
 H370-Causes damage to organs : Liver Kidney
 H372-Causes damage to organs through prolonged or repeated exposure : Liver Respiratory system Kidney Central nervous system
 H336-May cause drowsiness or dizziness.
 H402-Harmful to aquatic life.
 H412-Harmful to aquatic life with long lasting effects.

Precautionary statements**C1455****Calix[4]arene (contains ca. 8% Chloroform)**

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SECTION 2: Hazards identification

[Prevention]	P201-Obtain special instructions before use. P202-Do not handle until all safety precautions have been read and understood. P260-Do not breathe dust/fume/gas/mist/vapours/spray. P271-Use only outdoors or in a well-ventilated area. P273-Avoid release to the environment. P270-Do not eat, drink or smoke when using this product. P264-Wash hands thoroughly after handling.
[Response]	P280-Wear protective gloves/eye protection/face protection. P304+P340-IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. P302+P352-IF ON SKIN: Wash with plenty of soap and water. P332+P313-If skin irritation occurs: Get medical advice/attention. P362-Take off contaminated clothing and wash before reuse. P308+P313-IF exposed or concerned: Get medical advice/attention.
[Storage]	P403+P233-Store in a well-ventilated place. Keep container tightly closed. P405-Store locked up.
[Disposal]	P501-Dispose of contents/container through a waste management company authorized by the local government

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components:	Calix[4]arene (contains ca. 8% Chloroform)
Percent:	>98.0%(HPLC)
CAS Number:	74568-07-3
Synonyms:	Tetrahydroxycalix[4]arene (contains ca. 8% Chloroform)
Chemical Formula:	C ₂₈ H ₂₄ O ₄

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
Skin contact:	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical advice/attention.
Ingestion:	Get medical advice/attention.Rinse mouth.
Protection of first-aiders:	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

4.2 Most important symptoms and effects, both acute and delayed

Headache, Vomiting, Unconsciousness

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: Dry chemical, foam, water spray, carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume. Carbon monoxide, Carbon dioxide, Hydrogen chloride, Phosgene

5.3 Advice for firefighters

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so. When extinguishing fire, be sure to wear personal protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use extra personal protective equipment (P3 filter respirator for toxic particles). Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

6.2 Environmental precautions

Prevent product from entering drains.

6.3 Methods and materials for containment and cleaning up

Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid all contact!
7.2 Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store locked up. Store away from incompatible materials such as oxidizing agents.
7.3 Specific end use(s)	No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	No data available (Chloroform) ACGIH TLV(TWA):10 ppm OSHA PEL(CL):10 ppm
8.2 Exposure controls	Install a closed system or local exhaust. Also install safety shower and eye bath.
Respiratory protection:	Dust respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
Hand protection:	Impervious gloves.
Eye protection:	Safety goggles. A face-shield, if the situation requires.
Skin and body protection:	Impervious protective clothing. Protective boots, if the situation requires.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state (20°C):	Solid
Form:	Crystal- Powder
Colour:	White - Almost white
Odour:	No data available
pH:	No data available
Melting point/freezing point:	No data available (Chloroform) -64°C
Boiling point/range:	No data available (Chloroform) 60°C
Flash point:	No data available (Calculated value:>60°C)
Flammability or explosive limits:	
Lower:	No data available
Upper:	No data available
Relative density:	No data available
Solubility(ies):	
[Water]	No data available
[Other solvents]	No data available
Partition coefficient: n-octanol/water:	No data available (Chloroform) 1.97
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Dynamic Viscosity:	No data available
Kinematic viscosity:	No data available
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 proper conditions.
10.3 Possibility of hazardous reactions	No special reactivity has been reported.
10.4 Conditions to avoid	No data available
10.5 Incompatible materials	Oxidizing agents, Strong bases
10.6 Hazardous decomposition products	Carbon monoxide, Carbon dioxide, Hydrogen chloride, Phosgene

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute Toxicity:	(Chloroform) ihl-hmn LCLo:25000 ppm/5M orl-rat LD50:695 mg/kg ihl-rat LC50:47702 mg/m ³ /4H skn-rbt LD50:>20 g/kg
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SECTION 11: Toxicological information

Skin corrosion/irritation:	(Chloroform) skn-rbt 500 mg/24H MLD
Serious eye damage/irritation:	(Chloroform) eye-rbt 20 mg/24H MOD
Germ cell mutagenicity:	(Chloroform) dni-hmn-hla 19 mmol/L mmo-sato 20 ug/plate (±S9) cyt-rat-ori 597 mg/kg/5D-I
Carcinogenicity:	(Chloroform) ori-rat TDLo:13832 mg/kg/2Y-C IARC = 2B NTP = b
Reproductive toxicity:	

*We judged that this product was not classified into Class 6.1 Toxic Substance of current edition of IATA Dangerous Goods Regulations (DGR) according to acute toxicity values and/or Quantitative Structure-Activity Relationship (QSAR).

SECTION 12: Ecological information

12.1 Toxicity

Fish:	No data available
Crustacea:	No data available
Algae:	No data available

12.2 Persistence and degradability No data available

12.3 Bioaccumulative potential No data available

12.4 Mobility in soil

Log Pow:	No data available
Soil adsorption (Koc):	No data available
Henry's Law constant (PaM ³ /mol):	No data available

12.5 Results of PBT and vPvB assessment

PBT:	Not applicable
vPvB:	Not applicable

12.6 Other adverse effects No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

SECTION 14: Transport information

14.1 UN number Not listed

14.2 UN proper shipping name

ADR/RID	Not listed
IMDG/IMO	Not listed
ICAO/IATA	Not listed

14.3 Transport hazard class(es)

ADR/RID	Does not correspond to the classification standard of the United Nations
IMDG/IMO	Does not correspond to the classification standard of the United Nations
ICAO/IATA	Does not correspond to the classification standard of the United Nations

14.4 Packaging group

ADR/RID	-
IMDG/IMO	-
ICAO/IATA	-

14.5 Environmental hazards

Marine pollutant	-
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14.6 Special precautions for user No data available

This substance is not regulated by IATA/ICAO/ARD/RID/IMO/IMDG and is considered to be Non Hazardous for transport by Air/Rail/Road/Sea

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No.1907/2006	Not listed
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15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

Prepared by:	TCI Chemicals (India) Pvt. Ltd.
Issue date:	07/29/2015

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.

The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.