

## MATERIAL SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name :	<b>Deblock Solution</b>
Chemical Name /Combination:	5% Trichloroacetic Acid/ Dichloromethane
Catalog Number:	<b>DN-3302-B</b>
Synonym/Trade Name:	TCA/ DCM Solution, DMT Removal Reagent
Recommended use:	Laboratory Use only
Manufacturer or supplier's	ChemGenes India Pvt. Ltd 207, Regency Plaza, 5-Park Road Lucknow-226 001,U.P, India, Ph: +91 86874 21036, Email: info@chemgenesindia.com

### 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification of the substance or mixture :	Skin irritation, Category 2
	Serious eye damage, Category 1
	Carcinogenicity, Category 2
	Specific target organ toxicity - single exposure, Category 3
	Acute aquatic toxicity, Category 2
	Chronic aquatic toxicity, Category 2

GHS Label elements, including precautionary statements

Symbol(s):



Signal word : Danger

#### Hazard statements:

Causes skin irritation.

Causes serious eye damage.

May cause drowsiness and dizziness. Suspected of causing cancer.

Toxic to aquatic life with long lasting effects.

#### Precautionary statements:

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area. Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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.

If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. Collect spillage.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Dichloromethane	75-09-2	95.00 % Dichloromethane
Trichloroacetic acid	76-03-9	05.00 % Trichloroacetic acid

Note: Organic Solvents Class 2

Note: Substances Subject to be Notified Names Note: Mutagens, Existing Chemicals

Note: Type 2 Monitoring Chemicals (Designated substances) Note: Substances Prevented From Impairment of Health Note: ISHL Article 38-3 Specified Chemical Substances Note: Type III Monitoring Chemicals

**4. FIRST AID MEASURES**

Inhalation:

Call a physician immediately.

Remove to fresh air.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Use oxygen as required, provided a qualified operator is present.

Skin contact:

Wash off immediately with plenty of water for at least 15 minutes.

Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use.

Call a physician immediately.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Call a physician immediately.

**Ingestion:**

Do not induce vomiting without medical advice.

Never give anything by mouth to an unconscious person. Call a physician immediately.

Notes to physician : Treat symptomatically.

**5. FIREFIGHTING MEASURES**

Suitable extinguishing media:

Dry chemical

Carbon dioxide (CO<sub>2</sub>) Foam

Cool closed containers exposed to fire with water spray.

Specific hazards during:

This product is not flammable at ambient temperatures and firefighting atmospheric pressure.

In case of fire hazardous decomposition products may be produced such as:

Gaseous hydrogen chloride (HCl). Phosgene

Chlorine (Cl<sub>2</sub>)

Carbon monoxide

Carbon dioxide (CO<sub>2</sub>)

Special protective equipment for firefighters:

Wear self-contained breathing apparatus and protective suit.

Flash point Note: does not flash, closed cup

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions,**

Wear personal protective

**Protective equipment and emergency procedures:**

Immediately evacuate personnel to safe areas.

Keep people away from and upwind of spill/leak.

Ensure adequate ventilation.

Remove all sources of ignition.

Isolate the affected area. Confine entry into the affected area to those persons properly protected (see Section 8 of MSDS).

Do not swallow.

Do not breathe vapours or spray mist.

Do not get in eyes, on skin, or on clothing.

**Environmental precautions:**

Prevent further leakage or spillage if safe to do so.

Do not let product enter drains.

Discharge into the environment must be avoided.

Do not flush into surface water or sanitary sewer system.

Do not allow run-off from firefighting to enter drains or water courses.

**Methods and materials for containment and cleaning up:**

Ventilate the area.

Soak up with inert absorbent material (e.g., sand, silica gel, acid binder, universal binder, sawdust).

Shovel into suitable container for disposal.

Dispose of absorbed material in accordance with the regulations.

**7. HANDLING AND STORAGE****Handling**

Precautions for safe handling :

Wear personal protective equipment.

Use only in well-ventilated areas.

Keep container tightly closed.

Do not swallow.

Do not breathe vapours or spray mist.

Do not get in eyes, on skin, or on clothing.

Advice on protection against fire and explosion :

Normal measures for preventive fire protection.

Keep product and empty container away from heat and sources of ignition.

Fire or intense heat may cause violent rupture of packages.

**Storage**

Conditions for safe storage, :

Keep containers tightly closed in a dry, cool and well- including any ventilated place.  
incompatibilities

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Keep away from heat and sources of ignition.

Keep away from direct sunlight.

Store away from incompatible substances.

Container hazardous when empty.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Components with workplace control parameters

Components	75-09-2	Value	Control parameters		Basis
Dichloromethane	75-09-2	TL : Threshold limits	(50 ppm)	04- 2009	ISHL:Industrial Safety and Health Law OEL
		TWA : Time weighted average	170 mg/m <sup>3</sup> (50 ppm)	04- 2007	Japan Society for Occupational Health:Japan Society for Occupational Health allowable concentration recommendation

		TLV-C : Ceiling Limit Value	340 mg/m <sup>3</sup> (100 ppm)	04- 2007	Japan Society for Occupational Health:Japan Society for Occupational Health allowable concentration recommendatio n valu
--	--	--------------------------------	------------------------------------	----------	-----------------------------------------------------------------------------------------------------------------------------------------

**Appropriate engineering controls**

Use with local exhaust ventilation.

Prevent vapour build up by providing adequate ventilation during and after use.

**Individual protection measures, such as personal protective equipment****Respiratory protection:**

In case of insufficient ventilation wear suitable respiratory equipment.

For rescue and maintenance work in storage tanks use self- contained breathing apparatus.

Use NIOSH approved respiratory protection.

**Hand protection:**

Solvent-resistant gloves

Gloves must be inspected prior to use.

Replace when worn.

**Eye protection:**

Do not wear contact lenses.

Wear as appropriate:

Safety glasses with side-shields

If splashes are likely to occur, wear:

Goggles or face shield, giving complete protection to eyes

**Skin and body protection:**

Wear as appropriate:

Solvent-resistant apron

Solvent-resistant gloves

If splashes are likely to occur,

wear: Protective suit

**Hygiene measures:**

When using, do not eat, drink or smoke.

Wash hands before breaks and immediately after handling the product.

Keep working clothes separately.

Remove and wash contaminated clothing before re-use.

Do not swallow.

Do not breathe vapours or spray mist.

Do not get in eyes, on skin, or on clothing.

**Protective measures :**

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	liquid, clear
Colour	colourless
Odour	mild sweet
Melting point/range	-95°C
Boiling point/boiling range	40°C
Flash point	Note: does not flash, closed cup
Lower explosion limit	12 %(V) Note: The physical data is that of the main component.
Upper explosion limit	19 %(V) Note: The physical data is that of the main component.
Vapour pressure	466 hPa at 20 °C(68 °F)
Vapour density	2.9 Note: (Air = 1.0)
Density	1.345 g/cm <sup>3</sup> at 20 °C
Water solubility	13.2 g/l at 25 °C
Ignition temperature	556 °C Method: The physical data is that of the main component.

**10. STABILITY AND REACTIVITY**

Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous:	Hazardous polymerization does not occur. reactions
Conditions to avoid:	Heat, flames and sparks. Protect from extreme heat and cold. Keep away from direct sunlight.
Incompatible materials to:	Oxidizing agents avoid Strong acids and strong bases Metals May attack many plastics, rubbers and coatings.
Hazardous decomposition: products	In case of fire hazardous decomposition products may be produced such as: Phosgene Hydrogen chloride gas Carbon monoxide Carbon dioxide (CO <sub>2</sub> ) Chlorine

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity:	Acute toxicity estimate: 83,333.33 mg/kg Method: Calculation method
----------------------	------------------------------------------------------------------------

## Acute inhalation toxicity

Trichloroacetic acid: LC50: > 4800 ppm  
Exposure time: 4 h  
Species: Rat

Acute dermal toxicity : Acute toxicity estimate: 2,500 mg/kg  
Method: Calculation method

## Skin irritation

Dichloromethane: Species: Rabbit  
Result: Moderate skin irritation

Trichloroacetic acid: Species: Rabbit  
Result: Causes burns.  
Classification: Corrosive

## Eye irritation

Dichloromethane: Species: Rabbit  
Result: Moderate eye irritation

## Genotoxicity in vitro

Dichloromethane: Test Method: Ames test Result: positive  
Trichloroacetic acid: Note: In vitro tests did not show mutagenic effects  
Test Method: In vitro gene mutation study in mammalian cells  
Cell type: Chinese Hamster Ovary Cells  
Result: positive  
Test Method: Unscheduled DNA synthesis Result: positive  
Note: Liver cells Mouse

## Genotoxicity in vivo

Trichloroacetic acid: Result: positive negative

## Further information

Dichloromethane: Note:  
Confirmed animal carcinogen with unknown relevance to humans.

## Trichloroacetic acid:

Note:  
Confirmed animal carcinogen with unknown relevance to humans.

**12. ECOLOGICAL INFORMATION**

## Toxicity to fish

Dichloromethane: static test  
LC50: 310 mg/l  
Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)  
flow-through test  
LC50: 193 mg/l  
Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)  
flow-through test  
LC50: 10.95 mg/l

	Exposure time: 96 h
	Species: Oncorhynchus mykiss (rainbow trout)
	static test
	LC50: 220 mg/l
	Exposure time: 96 h
	Species: Lepomis macrochirus (Bluegill sunfish)
Trichloroacetic acid:	LC50: 2,000 mg/l
	Exposure time: 96 h
	Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates	
Dichloromethane:	static test
	EC50: 140 mg/l
	Exposure time: 48 h
	Species: Daphnia magna (Water flea)
Trichloroacetic acid:	EC50: 2,000 mg/l
	Exposure time: 48 h
	Species: Daphnia magna (Water flea)
Toxicity to algae	
Trichloroacetic acid:	EC50: 0.3 mg/l
	Exposure time: 14 d
	Species: Chlorella pyrenoidosa (aglae)
	NOEC: 0.01 mg/l
	Exposure time: 14 d
	Species: Chlorella pyrenoidosa (aglae)
Toxicity to bacteria	
Dichloromethane:	EC50: 1,000 mg/l
	Exposure time: 15 min
	Species: Photobacterium phosphoreum

### 13. DISPOSAL CONSIDERATIONS

Disposal methods : In accordance with local and national regulations.

### 14. TRANSPORT INFORMATION

#### ADR

UN/ID No.	: UN 2922
Description of the goods	: CORROSIVE LIQUID, TOXIC, N.O.S. (TRICHLOROACETIC ACID, DICHLOROMETHANE)
Class	: 8
Packing group	: II
Classification Code	: CT1
Hazard Identification Number:	86
Labels	: 8 (6.1)



**IATA**

UN/ID No. : UN 2922  
Description of the goods : Corrosive liquid, toxic, n.o.s.  
(Trichloroacetic acid, Dichloromethane)  
Class : 8  
Packing group : II  
Labels : 8 (6.1)  
Packing instruction (cargo : 855 aircraft)  
Packing instruction : 851 (passenger aircraft)  
Packing instruction : Y840 (passenger aircraft)

**IMDG**

UN/ID No. : UN 2922  
Description of the goods : CORROSIVE LIQUID, TOXIC, N.O.S.  
(TRICHLOROACETIC ACID, DICHLOROMETHANE)  
Class : 8  
Packing group : II  
Labels : 8 (6.1)  
EmS Number 1 : F-A  
EmS Number 2 : S-B  
Marine pollutant : no

**15. REGULATORY INFORMATION**

## National regulatory information

Vessel Safety Law : Toxic and infectious substances (Article 2 and 3 of rules on JP VSL shipping and storage of dangerous goods and its AttachedTable 1)

Aviation Law : Toxic and infectious substances (Article 194 of The JP AVL Enforcement Rules of Aviation Law and its Attached Table 1)

Fire Service Law : Not relevant

Poisonous and Deleterious : Not relevant

Substances Control Law

**Other international regulations**

## Notification status

US. Toxic Substances : On TSCA Inventory  
Control Act

Australia. Industrial Chemical : On the inventory, or in compliance with the inventory  
(Notification and Assessment) Act

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

Environmental Protection Act  
(CEPA). Domestic  
Substances List (DSL)

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals : On the inventory, or in compliance with the inventory  
Inventory (KECI)

Philippines. The Toxic : On the inventory, or in compliance with the inventory  
Substances and Hazardous  
and Nuclear Waste Control

Act

China. Inventory of Existing : On the inventory, or in compliance with the inventory  
Chemical Substances

New Zealand. Inventory of : On the inventory, or in compliance with the inventory  
Chemicals (NZIoC), as  
published by ERMA New Zealand

#### **16. OTHER INFORMATION**

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. ChemGenes India Pvt. Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.

-----End of MSDS-----