MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers & Company Information

Product name :	Deblock Solution
Combination:	3% Trichloroacetic Acid in Toluene (w/v)
Catalog Number:	**DN-3302-I**
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

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225 Skin irritation (Category 2), H315 Serious eye damage (Category 1), H318
Reproductive toxicity (Category 2), H361d
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 Specific target organ toxicity - repeated exposure (Category 2), Central nervous system, H373
Aspiration hazard (Category 1), H304
Short-term (acute) aquatic hazard (Category 1), H400 Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.

H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P305 +
P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.

Supplemental Hazard Statements
none

Reduced Labeling (<= 125 ml)
Pictogram

Signal word Danger

Hazard statement(s)
H304 May be fatal if swallowed and enters airways.
H318 Causes serious eye damage.
H361d Suspected of damaging the unborn child.

Precautionary statement(s)
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P305 +
P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.

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

3.2 Mixtures

Component		Classification	Concentration
Trichloracetic acid			
CAS-No. EC-No. Index-No.	76-03-9 200-927-2 607-004-00-7	Skin Corr. 1A; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic	>= 3 - < 5 %

Registration number	01-2119485186-30-XXXX	1; H314, H318, H335, H400, H410 Concentration limits: >= 1 %: STOT SE 3, H335; M-Factor - Aquatic Acute: 10	
Toluene			
CAS-No. EC-No. Index-No. Registration number	108-88-3 203-625-9 601-021-00-3 01-2119471310-51-XXXX	Flam. Liq. 2; Skin Irrit. 2; Repr. 2; STOT SE 3; STOT RE 2; Asp. Tox. 1; Aquatic Chronic 3; H225, H315, H361d, H336, H373, H304, H412 Concentration limits: 20 %: STOT SE 3, H336;	>= 90 - <= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first-aid measures General advice
Show this material safety data sheet to the doctor in attendance.
If inhaled
After inhalation: fresh air. Call in physician.
In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed
After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free.
Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

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
Carbon dioxide (CO2) Dry powder Foam
Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Combustible.
Fire may cause evolution of:
Hydrogen chloride gas
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
5.4 Further information
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.
6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.
Chemizorb®). Dispose of properly. Clean up affected area.
6.4 Reference to other sections
For disposal see section 13.

SECTION 7: HANDLING AND STORAGE
7.1 Precautions for safe handling Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.
Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection.
Wash hands and face after working with substance.
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Recommended storage temperature see product label.
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
Ingredients with workplace control parameters
8.2 Exposure controls
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). Tightly fitting safety goggles
Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact Material: Viton®
Minimum layer thickness: 0,70 mm Break through time: > 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please

contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact Material: Viton®
Minimum layer thickness: 0,70 mm Break through time: > 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)
Body Protection
Flame retardant antistatic protective clothing.
Respiratory protection
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.
Control of environmental exposure
Do not let product enter drains. Risk of explosion.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Color: colorless
b)	Odor	No data available
c)	Odor Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	No data available
g)	Flash point	4,4 °C
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapor pressure	No data available
l)	Vapor density	No data available
m)	Density	0.878 g/cm3
	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Autoignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	
	Viscosity, kinematic:	No data available

	Viscosity, dynamic:	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
Vapors may form explosive mixture with air.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Risk of explosion with:
fuming sulfuric acid Nitric acid
silver perchlorates nitrogen dioxide
nonmetallic halides acetic acid
halogen-halogen compounds uranium hexafluoride organic nitro compounds
Violent reactions possible with: Strong oxidizing agents
Strong acids sulfur
Exothermic reaction with: alkalines
alkali hydroxides Amines
dimethyl sulfoxide strong oxidising agents sulfoxides
Copper

10.4 Conditions to avoid
Warming.

10.5 Incompatible materials
Rubber, various plastics

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Mixture
Acute toxicity
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Symptoms: Possible symptoms:, mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Dermal: No data available

Skin corrosion/irritation
Mixture causes skin irritation.

Serious eye damage/eye irritation
Mixture causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
Evidence of harm to the unborn child.

Specific target organ toxicity - single exposure
Mixture may cause respiratory irritation. Mixture may cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure
Mixture may cause damage to organs through prolonged or repeated exposure. - Central nervous system

Aspiration hazard
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

11.2 Additional Information
Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Components
Toluene
Acute toxicity
LD50 Oral - Rat - male - 5.580 mg/kg
(Tested according to Directive 92/69/EEC.)
LC50 Inhalation - Rat - male and female - 4 h - 25,7 mg/l
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - > 5.000 mg/kg
Remarks: (ECHA)

Skin corrosion/irritation
Skin - Rabbit
Result: irritating - 4 h
Remarks: (ECHA)
Serious eye damage/eye irritation
Eyes - Rabbit
Result: slight irritation (OECD Test Guideline 405)

Respiratory or skin sensitization Maximization Test - Guinea pig Result: negative (Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity
Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test
Result: negative
Test Type: Ames test
Test system: S. typhimurium Result: negative
Species: Rat - Bone marrow Result: negative
Remarks: (ECHA)

Carcinogenicity
No data available

Reproductive toxicity
Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure. - Central nervous system

Aspiration hazard
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

Trichloracetic acid

Acute toxicity
LD50 Oral - Rat - 3.320 mg/kg
Remarks: (IUCLID) Inhalation: No data available Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit Result: Corrosive Remarks: (IUCLID)

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitization Maximization Test - Guinea pig Result: negative Remarks: (IUCLID)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Human lymphocytes
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Human lymphocytes
Result: positive
Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells
Result: Positive results were obtained in some in vitro tests. Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation. - Respiratory system

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
Mixture
No data available

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
No data available

Components	
Toluene	
Toxicity to fish	flow-through test LC50 - Oncorhynchus kisutch (coho salmon) - 5,5 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Ceriodaphniadubia (water flea) - 3,78 mg/l - 48 h (US-EPA)
Toxicity to bacteria	static test EC50 - Bacteria - 84 mg/l - 24 h Remarks: (ECHA)

Trichloracetic acid
No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Product
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 2924 IMDG: 2924 IATA: 2924

14.2 UN proper shipping name
ADR/RID: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Toluene, Trichloracetic acid)
IMDG: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Toluene, Trichloracetic acid)
IATA: Flammable liquid, corrosive, n.o.s. (Toluene, Trichloracetic acid)

14.3 Transport hazard class(es)
ADR/RID: 3 (8) IMDG: 3 (8) IATA: 3 (8)

14.4 Packaging group
ADR/RID: II IMDG: II IATA: II

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 material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Toluene

National legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

: ENVIRONMENTAL HAZARDS

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: OTHER INFORMATION
Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness. H361d Suspected of damaging the unborn child.
H373 May cause damage to organs (/$/*_2ORGAN_REPEAT/$/) through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

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. Ltdshall not be held liable for any damage resulting from handling or from contact with the above product.
