



Material Safety Data Sheet

REMA TIP TOP

Product #'s: T2 Solution A

MSDS #: RTT-IND-005

Rev. # 1

Rev. Date: 2/12/2008

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: T2 Solution A

Manufacturer: REMA TIP TOP/NO. AMERICA, 119 Rockland Avenue, Northvale, NJ 07647

24-Hour Emergency Phone Number: North America: 800-424-9300 (CHEMTREC)
International: 703-527-3887 (CHEMTREC) Collect Calls Accepted

2. PRODUCT INGREDIENTS

<u>CHEMICAL NAME:</u>	<u>CAS NUMBER:</u>	<u>% RANGE:</u>	<u>OSHA PEL:</u>
Trichloroethylene	79-01-6	60-90	100 ppm TWA
Kaolin	1332-58-7	0.5-1.5	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
Carbon black	1333-86-4	0.5-1.5	3.5 mg/m ³ TWA

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: F025-Hazardous wastes.

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication). The balance of ingredients not rated as hazardous as defined in 29 CFR 1910.1200. This product is regulated under the Canadian Controlled Products Regulations.

The balance of ingredients not rated as hazardous as defined in 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

The product is a clear mobile liquid with a chlorinated or ether like odor. This product is harmful by inhalation, when in contact with the skin, eyes and if it is swallowed. Probable cancer hazard. Overexposure may cause damage to the liver and kidneys.

EYE: This product may cause irritation to the eyes. Contact may cause stinging, watering, redness, swelling, and eye damage. Vapors may also produce eye irritation. Chronic eye exposure to this product may cause irreversible eye damage.

SKIN: This product may cause irritation to the skin. Prolonged and/or repeated skin contact with this product may cause irritation, defatting of skin and dermatitis. Confinement of this material on the skin may result in chemical burns. This product may be harmful if it is absorbed through the skin.

INGESTION: Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. May produce central nervous system depression. If aspirated (liquid enters the lung), the product may be rapidly absorbed through the lungs and can result in chemical pneumonitis and pulmonary edema/hemorrhage.

INHALATION: This product may be harmful by inhalation. Overexposure can cause central nervous system depression with symptoms of headache, dizziness, stupor, loss of consciousness or death. Exposure to high concentrations can cause



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irregular heartbeat, cardiac arrest and death. Overexposure can result in adverse effects on the liver, nervous system and other internal organs.

4. FIRST AID

EYES: Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

SKIN: For skin contact flush with large amounts of water while removing contaminated clothing. Wash affected area with mild soap and water. If irritation persists, get medical attention. Wash contaminated clothing before reuse.

INGESTION: Do not induce vomiting. Call a physician immediately.

INHALATION: If inhaled, immediately remove the affected person to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Seek medical attention.

NOTE TO PHYSICIAN: Chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point: >200 F

Upper Flammable Limit (UFL): 44.8% @ 212 °F; 10.5% @ 77 °F

Auto Ignition: 788 °F

Method Used: TOC, TCC & COC

Lower Flammable Limit (LFL): 8% @ 212 °F; 8% @ 77 °F

Flammability Classification: Class IIIB

HAZARDOUS COMBUSTION PRODUCTS: Hazardous combustion products may include and are not limited to hydrogen chloride. Hazardous combustion products may include trace amounts of phosgene and chlorine gases.

EXTINGUISHING MEDIA: Water fog/spray, carbon dioxide, and foam.

FIRE FIGHTING INSTRUCTIONS: This product is a slightly flammable liquid. Contain fire run-off if possible. Firewater run-off, if not contained may cause environmental damage.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products.

6. ACCIDENTAL RELEASE MEASURES

CONTAINMENT PROCEDURES: Stop the flow of material, if this is without risk. Material is heavier than water and has limited water solubility. It will collect on the lowest surface.

CLEAN-UP PROCEDURES: Eliminate ignition sources including sources of electrical, static or frictional sparks. Ventilate the contaminated area. Absorb spill with inert material. Shovel material into properly labeled closed metal containers for disposal. Place in non-leaking containers for immediate disposal. Flush area with water to remove trace residue. Do not allow the spilled product to enter public drainage system or open watercourses.



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EVACUATION PROCEDURES: Persons not wearing appropriate protective equipment should be excluded from area of spill until clean up has been completed.

SPECIAL PROCEDURES: Follow all Local, State, Federal and Provincial regulations for disposal.

Notify National Response Center (800-424-8802) of uncontained releases to the environment in excess of the Reportable Quantity (RQ). For all transportation accidents, call CHEMTREC at 800-424-9300.

7. HANDLING & STORAGE

HANDLING: Do not get in contact with skin and eyes. Use this product with adequate ventilation. Avoid prolonged or repeated breathing of vapors. Avoid dust or mist formation. Wash thoroughly after handling. DO NOT eat, drink or smoke in product area.

Do not store in aluminum, zinc, aluminum alloys, and plastic containers. Do not reuse the empty container. Do not cut or weld on empty drums. Sufficient vapors from residues may be present to cause explosion and serious injury and/or death. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or promptly disposed of.

STORAGE: Keep packaged in original, labeled containers until use. Store in a cool, dry, well-ventilated area. Store this product in airtight containers away from sources of heat and light. Do not store in aluminum, zinc, aluminum alloys, and plastic containers. Ground all equipment to prevent accumulation of static charge. Store away from incompatible materials. Do not remove or deface label. Do not reuse container without recycling or reconditioning in accordance with any Federal, Provincial, State or local laws. Do not use cutting or welding torches, open flames, or electric arcs on empty or full containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Wear safety glasses. Chemical goggles and/ or face shields should be worn, when splashing is a possibility. Contact lenses should not be exposed. If vapor exposure causes eye discomfort, use a full-face respirator.

SKIN PROTECTION: Use impervious gloves. Use of impervious apron and boots are recommended.

RESPIRATORY PROTECTION: If recommended exposure limits are exceeded, a NIOSH-approved, continuous flow supplied air-respirator, hood or helmet is acceptable. A NIOSH approved self-contained breathing apparatus or supplied-air respirator, with full-face piece, is required for vapor concentrations above 625 ppm. A NIOSH approved self-contained positive pressure breathing apparatus, with full-face piece, is required for spills and/ or emergencies.



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EXPOSURE GUIDELINE(s):

Component Exposure Limits

REMA TIP/TOP USA recommends that its customers minimize employee exposure. REMA therefore suggests that its customers consider adopting the lower of the current OSHA PEL or the ACGIH TLV's for the purpose of evaluating employee exposures. The TLV's recommended by the ACGIH have been updated on a continuing basis.

Trichloroethylene (79-01-6)

ACGIH:	50 ppm TWA 100 ppm STEL
OSHA:	100 ppm TWA 200 ppm Ceiling

Carbon black (1333-86-4)

ACGIH:	3.5 mg/m ³ TWA
OSHA:	3.5 mg/m ³ TWA
NIOSH:	3.5 mg/m ³ TWA; 0.1 mg/m ³ TWA (as PAH, carbon black in presence of polycyclic aromatic hydrocarbons)

Kaolin (1332-58-7)

ACGIH:	2 mg/m ³ TWA (respirable fraction, particulate matter containing no asbestos and < 1% crystalline silica)
OSHA:	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
NIOSH:	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)



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Component Exposure Limits - Canada

The following Provincial Exposure Limits apply for this product's components.

Trichloroethylene (79-01-6)

Alberta:	50 ppm TWA; 269 mg/m ³ TWA 100 ppm STEL; 537 mg/m ³ STEL
British Columbia:	50 ppm TWA 100 ppm STEL
Manitoba:	50 ppm TWA; 270 mg/m ³ TWA 200 ppm STEL; 1080 mg/m ³ STEL
New Brunswick:	50 ppm TWA; 269 mg/m ³ TWA 100 ppm STEL; 537 mg/m ³ STEL
NW Territories:	100 ppm TWA; 537 mg/m ³ TWA 150 ppm STEL; 806 mg/m ³ STEL
Nova Scotia:	50 ppm TWA 100 ppm STEL
Nunavut:	100 ppm TWA; 537 mg/m ³ TWA 150 ppm STEL; 806 mg/m ³ STEL
Ontario:	50 ppm TWAEV 100 ppm STEV
Quebec:	50 ppm TWAEV; 269 mg/m ³ TWAEV 200 ppm STEV; 1070 mg/m ³ STEV
Saskatchewan:	269 mg/m ³ TWA; 50 ppm TWA 537 mg/m ³ STEL; 100 ppm STEL
Yukon:	100 ppm TWA; 535 mg/m ³ TWA 150 ppm STEL; 800 mg/m ³ STEL

Carbon black (1333-86-4)

Alberta:	3.5 mg/m ³ TWA
British Columbia:	3.5 mg/m ³ TWA
Manitoba:	3.5 mg/m ³ TWA
New Brunswick:	3.5 mg/m ³ TWA
NW Territories:	3.5 mg/m ³ TWA 7 mg/m ³ STEL
Nova Scotia:	3.5 mg/m ³ TWA
Nunavut:	3.5 mg/m ³ TWA 7 mg/m ³ STEL
Ontario:	3.5 mg/m ³ TWAEV
Quebec:	3.5 mg/m ³ TWAEV
Saskatchewan:	3.5 mg/m ³ TWA 7 mg/m ³ STEL
Yukon:	3.5 mg/m ³ TWA 7 mg/m ³ STEL



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Kaolin (1332-58-7)

Alberta:

2 mg/m³ TWA (respirable particulate)

British Columbia:

2 mg/m³ TWA (respirable, particulate matter containing no asbestos and less than 1% crystalline silica)

Manitoba:

10 mg/m³ TWA (The value is for total dust containing no asbestos and < 1% crystalline silica)

New Brunswick:

2 mg/m³ TWA (particulate matter containing no asbestos and < 1% crystalline silica, respirable fraction)

NW Territories:

5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)

Nova Scotia:

2 mg/m³ TWA (respirable fraction, particulate matter containing no asbestos and < 1% crystalline silica)

Nunavut:

5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass)

Ontario:

2 mg/m³ TWAEV (respirable, containing no asbestos and less than 1% crystalline silica)

Quebec:

10 mg/m³ TWAEV (total dust, dust containing no asbestos and less than 1% crystalline silica)

Saskatchewan:

2 mg/m³ TWA (respirable size)

Yukon:

4 mg/m³ STEL (respirable size)

30 mppcf TWA; 10 mg/m³ TWA

20 mg/m³ STEL

9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE: Black

ODOR: Irritating

ODOR THRESHOLD: ~60 ppm

BOILING POINT: ~ 188 °F (87°C)

SOLUBILITY IN WATER: 0.1 g/ 100 ml @ 25°C (77°F)

SPECIFIC GRAVITY: 1.45 @ 25°C (77°F)

VAPOR PRESSURE: 58 mm Hg @ 20°C (68°F)

% VOLATILE: 82%

10. STABILITY & REACTIVITY

INCOMPATIBILITY WITH OTHER MATERIALS: Materials to avoid are strong alkalis, oxidizers, barium, lithium, magnesium, and titanium. Avoid open flames and welding arcs which can cause thermal degradation.

HAZARDOUS POLYMERIZATION: Will not occur.



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DECOMPOSITION PRODUCTS: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hazardous decomposition products may include and are not limited to hydrogen chloride and trace amounts of chlorine and phosgene.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

This product is irritating to the eyes and respiratory tract and causes drowsiness, dizziness and nausea. Ventricular arrhythmias and very rapid respiration have been observed in individuals exposed to 15,000 ppm. High concentrations or prolonged overexposure can cause unconsciousness and death.

CHRONIC TOXICITY

Chronic overexposure to the ingredient Trichloroethylene has caused toxic effects in the liver, Lymphatic system (one species), kidney and cardiovascular system of experimental animals. Humans exposed to Trichloroethylene can become intolerant to ethyl alcohol, with small quantities causing inebriation and skin blotches. Reports have been published associating increased incidences of scleroderma (systemic sclerosis) with exposure to Trichloroethylene. The finding of chronic toxic effects in lab animals may indicate toxicity to humans. Overexposure should be avoided; failure to do so could result in illness, injury or even death depending on the level and duration of exposure.

CARCINOGENICITY

This product contains component(s) that may be listed by ACGIH, IARC, NIOSH, NTP OR OSHA.

Component Carcinogenicity

Trichloroethylene (79-01-6)

ACGIH: A5 - Not Suspected as a Human Carcinogen
NIOSH: potential occupational carcinogen
NTP: Reasonably Anticipated To Be A Carcinogen (Possible Select Carcinogen)
IARC: Monograph 63, 1995 (Group 2A (probably carcinogenic to humans))

Carbon black (1333-86-4)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NIOSH: potential occupational carcinogen (in presence of polycyclic aromatic hydrocarbons)
IARC: Monograph 65, 1996 (Group 2B (possibly carcinogenic to humans))

Kaolin (1332-58-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

12. ECOLOGICAL INFORMATION

No information available for the product.



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Component Analysis - Ecotoxicity - Aquatic Toxicity

Trichloroethylene (79-01-6)

Test & Species

96 Hr LC50 fathead minnow

44.1 mg/L

Conditions

flow-through

13. DISPOSAL CONSIDERATIONS

DISPOSAL: Waste must be handled in accordance with all federal, state, provincial, and local regulations.

UNUSED & UNCONTAMINATED PRODUCT:

Component Waste Numbers

Trichloroethylene (79-01-6)

RCRA:

waste number U228

0.5 mg/L regulatory level

Trichloroethylene has a waste number, U228, under RCRA - Hazardous Constituents - Appendix VIII to 40 CFR 261.

14. TRANSPORT INFORMATION

US DOT Information

Shipping Name: Trichloroethylene Mixture

UN/NA #: UN1710 **Hazard Class:** 6.1 **Packing Group:** III

Required Label(s): POISON

Additional Info.: Check RQ regulations for the product packaging.

PLACARD (WHEN REQUIRED): POISON, 6.

EXCEPTIONS: DOT Paragraphs 173.153 & 173.203.

ALTERNATE SHIPPING ARRANGEMENTS: Based on package or shipping container size, this product may be shipped as a, "Limited Quantity", or, renamed, "Consumer Commodity" and reclassified as, "ORM-D" Material.

TDG Information

Shipping Name: Trichloroethylene Mixture

UN/NA #: UN1710 **Hazard Class:** 6.1 **Packing Group:** III

Required Label(s): POISON

Additional Info.: Check RQ regulations for the product packaging.

IMDG Information

Additional Info.: EmS No. = F-A, S-A

IATA Information

Additional Info.: 6.1



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15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

SARA 313 INFORMATION:

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 313 (40 CFR 372.65).

Trichloroethylene (79-01-6)

SARA 313: 0.1 % de minimis concentration

SARA HAZARD CATEGORY:

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactive:** No

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA):

Component Analysis

This material contains one or more of the following chemicals required to be identified under CERCLA (40 CFR 302.4).

Trichloroethylene (79-01-6)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

TOXIC SUBSTANCES CONTROL ACT (TSCA): Components of this product have been checked against the non-confidential TSCA inventory by CAS Registry Number. Components not identified on this non-confidential inventory are either exempt from listing (i.e. polymers, hydrates) or are listed on the confidential inventory as declared by the supplier.

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Trichloroethylene	79-01-6	Yes	DSL	EINECS
Carbon black	1333-86-4	Yes	DSL	EINECS
Kaolin	1332-58-7	Yes	DSL	No

STATE RIGHT-TO-KNOW:

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Trichloroethylene	79-01-6	Yes	Yes	Yes	Yes	Yes	Yes
Carbon black	1333-86-4	Yes	Yes	Yes	Yes	Yes	Yes
Kaolin	1332-58-7	No	Yes	Yes	No	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

CANADIAN REGULATIONS

This product is regulated under the Canadian Controlled Products Regulations.

WHMIS INFORMATION:



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WHMIS Classification: D1B, D2A, D2B

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Trichloroethylene	79-01-6	1 %
Carbon black	1333-86-4	1 %

EUROPE:

Component Analysis

Component (CAS#)	EC #
Trichloroethylene (79-01-6)	201-167-4
Carbon black (1333-86-4)	215-609-9

16. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

MEDICAL EMERGENCIES:

Call CHEMTREC 24 hours a
Day for emergency information
800-424-9300

FOR ANY OTHER INFORMATION:

REMA TIP TOP/NO. AMERICA
119 Rockland Ave.
NORTHVALE, NJ 07647
201-768-8100

NOTICE: REMA TIP/TOP USA believes that the information contained on this material safety data sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.