



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: HARDENER

Product Use: Assembling solution

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>
Ethylacetate	141-78-6	>70	400 ppm TWA; 1400 mg/m ³ TWA
Thionophosphoric acid, tris-(p-isocyanatophenyl)	4151-51-3	<30	Not Established
Chlorobenzene	108-90-7	<2.5	75 ppm TWA; 350 mg/m ³ TWA

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following:
Isocyanates, all.

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication) and the Canadian Controlled Products Regulations.

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

This product is a tan viscous liquid. This product poses a serious fire hazard. This product may be irritating to the eyes and respiratory system. Prolonged and/or repeated skin contact with this product may cause irritation, defatting of skin and dermatitis.

EYE: This product may cause irritation to the eyes. Symptoms may include stinging, tearing, and redness.

SKIN: Prolonged and/or repeated skin contact with this product may cause irritation, defatting of skin and dermatitis. In rare instances, repeated exposure to ethyl acetate may result in sensitization with eczematous eruptions.

INGESTION: Not a likely route of entry. Ingestion of large amounts of this product may be harmful. Large amounts of ethyl acetate ingested may cause central nervous system depression, with dizziness, headache, weakness, fatigue, drowsiness, and unconsciousness. Ethyl acetate poisoning may cause congestion of the liver and kidneys.

INHALATION: Inhalation of vapors or mists during normal handling is not likely to cause harmful effects. Inhalation of large amounts of this product may be harmful. Inhalation may cause respiratory system irritation. Symptoms caused from high concentration exposure may include headache, dizziness, weakness, and unconsciousness.



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

4. FIRST AID

EYES: Flush eyes continuously for 15 minutes while frequently lifting the upper and lower eyelids. If irritation persists, consult medical personnel.

SKIN: For skin contact, flush with large amounts of water. Remove contaminated clothing and shoes. Wash with soap or mild detergent and large amounts of water. If irritation persists, get medical attention. Wash contaminated clothing before reuse.

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

INHALATION: Move person to non-contaminated air. If the affected person is not breathing, apply artificial respiration. Seek medical attention.

NOTE TO PHYSICIAN: Provide general supportive measures and treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

Flash Point: -4°C (25°F)

Upper Flammable Limit (UFL): 11.5% @ 212°F (100°C)

Auto Ignition: Not Available

Method Used: TOC, TCC, COC

Lower Flammable Limit (LFL): 2.1% @ 212°F (100°C)

Flammability Classification: Class IB

HAZARDOUS COMBUSTION PRODUCTS: Upon decomposition, this product emits carbon monoxide, carbon dioxide, phosgene and/or low molecular weight hydrocarbons.

EXTINGUISHING MEDIA: Dry chemical, foam, carbon dioxide, water fog.

FIRE FIGHTING INSTRUCTIONS: Serious fire hazard. Eliminate ignition sources including sources of electrical, static or frictional sparks. Use water spray to cool packages in the fire area. Fight fire from safe distance due to explosion hazard.

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

6. ACCIDENTAL RELEASE MEASURES

CONTAINMENT PROCEDURES: Do not breathe vapors. Ventilate area of leak or spill. Wear the appropriate personal protective equipment. See Section 8: Exposure Control/Personal Protection. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Contain the discharged material. Stop the flow of material, if this is without risk.

CLEAN-UP PROCEDURES: Absorb the spilled material with an inert absorbent (nonflammable) material. Scoop up used absorbent into drums or other appropriate container. Regulations vary. Consult local authorities before disposal. Follow all Local, State, Federal and Provincial regulations for disposal.

EVACUATION PROCEDURES: Clear all personnel from the area.



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

SPECIAL PROCEDURES: For all transportation accidents, call CHEMTREC at 800-424-9300.

7. HANDLING & STORAGE

HANDLING: Very large quantities of these packages, if mishandled, may accumulate enough liquid or vapor to cause a flammable atmosphere. Vapors are heavier than air and may spread along the floor. Keep containers tightly closed.

DO NOT eat, drink or smoke in product area. Wash thoroughly after handling.

STORAGE: Eliminate all sources of static electricity, heat, and ignition. Use only explosion-proof equipment. Store in a cool, dry place. Keep packaged in original, labeled containers until use. 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. DO NOT eat, drink or smoke in product area.

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. Contact lenses should not be exposed. Wear chemical goggles; face shield (if splashing is possible). If vapor exposure causes eye discomfort, use a full-face respirator.

SKIN PROTECTION: Wear clothing suitable to prevent skin contact, and butyl gloves with a minimum thickness of 0.7 mm (0.03 inches). Use of impervious apron and boots are recommended where large spills may occur.

RESPIRATORY PROTECTION: Respiratory protection; not normally required for ambient air concentrations not exceeding the Occupational Exposure Limit. When respiratory protection is required, wear a NIOSH/MSHA approved self-contained breathing apparatus with full-face piece operated in a positive-pressure mode.

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.

Ethylacetate (141-78-6)

ACGIH:	400 ppm TWA
OSHA:	400 ppm TWA; 1400 mg/m ³ TWA
NIOSH:	400 ppm TWA; 1400 mg/m ³ TWA

Chlorobenzene (108-90-7)

ACGIH:	10 ppm TWA
OSHA:	75 ppm TWA; 350 mg/m ³ TWA



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

Component Exposure Limits - Canada

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

Ethylacetate (141-78-6)

Alberta:	400 ppm TWA; 1440 mg/m ³ TWA
British Columbia:	150 ppm TWA
Manitoba:	400 ppm TWA; 1400 mg/m ³ TWA
New Brunswick:	400 ppm TWA; 1440 mg/m ³ TWA
NW Territories:	400 ppm TWA; 1441 mg/m ³ TWA 500 ppm STEL; 1801 mg/m ³ STEL
Nova Scotia:	400 ppm TWA
Nunavut:	400 ppm TWA; 1441 mg/m ³ TWA 500 ppm STEL; 1801 mg/m ³ STEL
Ontario:	400 ppm TWAEV; 1440 mg/m ³ TWAEV
Quebec:	400 ppm TWAEV; 1400 mg/m ³ TWAEV
Saskatchewan:	1440 mg/m ³ TWA; 400 ppm TWA 1800 mg/m ³ STEL; 500 ppm STEL
Yukon:	400 ppm TWA; 1400 mg/m ³ TWA 400 ppm STEL; 1400 mg/m ³ STEL

Chlorobenzene (108-90-7)

Alberta:	10 ppm TWA; 46 mg/m ³ TWA
British Columbia:	10 ppm TWA
Manitoba:	75 ppm TWA; 350 mg/m ³ TWA
New Brunswick:	10 ppm TWA; 46 mg/m ³ TWA
NW Territories:	75 ppm TWA; 345 mg/m ³ TWA 115 ppm STEL; 520 mg/m ³ STEL
Nova Scotia:	10 ppm TWA
Nunavut:	75 ppm TWA; 345 mg/m ³ TWA 115 ppm STEL; 520 mg/m ³ STEL
Ontario:	10 ppm TWAEV
Quebec:	75 ppm TWAEV; 345 mg/m ³ TWAEV
Saskatchewan:	46 mg/m ³ TWA; 10 ppm TWA 69 mg/m ³ STEL; 15 ppm STEL
Yukon:	75 ppm TWA; 350 mg/m ³ TWA 75 ppm STEL; 350 mg/m ³ STEL

9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE: Tan Liquid

ODOR: Ester-like

ODOR THRESHOLD: Not Available

BOILING POINT: 171°F (77°C)

SOLUBILITY IN WATER: immiscible @ 68°F (20°C)

SPECIFIC GRAVITY: 1.0g/ml @ 68°F (20°C)

VAPOR PRESSURE: 97 mbar @ 68°F (20°C)

VOC Content : 6.17 Lbs./Gallon (0.740 KG/Liter)



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

10. STABILITY & REACTIVITY

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid strong alkalies and oxidizers.

HAZARDOUS POLYMERIZATION: Will not occur.

DECOMPOSITION PRODUCTS: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Large quantities of this product, combines with excessive heat and nitrosating agents may produce a cleavage of nitrosamines in traces.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

This product may be irritating to the eyes, skin, and respiratory system. Inhalation of high concentrations of the vapors may produce the following symptoms: headache, dizziness, weakness, and unconsciousness.

CHRONIC TOXICITY

Prolonged or repeated liquid contact can result in defatting and drying of the skin, which may result in skin irritation and dermatitis. Chronic poisoning has been described as producing secondary anemia, leucocytosis and cloudy swelling, and fatty swelling of the viscera.

CARCINOGENICITY

No carcinogenicity data available for this product.

Component Carcinogenicity

Chlorobenzene (108-90-7)

ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans

12. ECOLOGICAL INFORMATION

Avoid contamination of ground water or waterways. Do not flush into sewer. Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Component Analysis - Ecotoxicity - Aquatic Toxicity

Ethylacetate (141-78-6)

Test & Species

96 Hr LC50 fathead minnow

230 mg/L

Conditions

flow-through

Chlorobenzene (108-90-7)

Test & Species

96 Hr LC50 fathead minnow

16.9 mg/L

Conditions

flow-through

48 Hr LC50 rainbow trout

4.1 mg/L

96 Hr LC50 bluegill

16 mg/L

96 Hr EC50 freshwater algae (*Selenastrum capricornutum*)

12.5 mg/L

5 min EC50 *Photobacterium phosphoreum*

9.36 mg/L

15 min EC50 *Photobacterium phosphoreum*

11.5 mg/L

30 min EC50 *Photobacterium phosphoreum*

11.3 mg/L



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

13. DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

UNUSED & UNCONTAMINATED PRODUCT:

Component Waste Numbers

Ethylacetate (141-78-6)

RCRA: waste number U112 (Ignitable waste)

Chlorobenzene (108-90-7)

RCRA: waste number U037
100.0 mg/L regulatory level

If discarded, this product is considered a RCRA ignitable waste, D001.

14. TRANSPORT INFORMATION

US DOT Information

Shipping Name: Adhesives containing a flammable liquid (Contains: Ethylacetate)

UN/NA #: UN1133 **Hazard Class:** 3 **Packing Group:** II

Required Label(s): Flammable

Additional Info.: PLACARD (WHEN REQUIRED): FLAMMABLE LIQUID, 3

EXCEPTIONS: DOT Paragraphs 173.150 & 173.173.

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: Adhesives (Contains: Ethylacetate)

UN/NA #: UN1133 **Hazard Class:** 3 **Packing Group:** II

Required Label(s): Flammable

IMDG Information

Additional Info.: EmS = F-E, S-D

IATA Information

Additional Info.: 3

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

SARA 313 INFORMATION:



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

Component Analysis

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

Chlorobenzene (108-90-7)

SARA 313: 1.0 % de minimis concentration

SARA HAZARD CATEGORY:

Acute Health: Yes Chronic Health: Yes Fire: Yes 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).

Ethylacetate (141-78-6)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Chlorobenzene (108-90-7)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

TOXIC SUBSTANCES CONTROL ACT (TSCA): All components are on the U.S. EPA TSCA Inventory List.

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Ethylacetate	141-78-6	Yes	DSL	EINECS
Thionophosphoric acid, tris-(p-isocyanatophenyl)	4151-51-3	Yes	DSL	EINECS
Chlorobenzene	108-90-7	Yes	DSL	EINECS

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
Ethylacetate	141-78-6	Yes	Yes	Yes	Yes	Yes	Yes
Chlorobenzene	108-90-7	Yes	Yes	Yes	Yes	Yes	Yes

CANADIAN REGULATIONS

This product is regulated under the Canadian Controlled Products Regulations.

WHMIS INFORMATION:

WHMIS Classification: B2, D2B



Material Safety Data Sheet

REMA TIP TOP

Product #'s: E40/15G, E40/30G

MSDS #: RTT-IND-013

Rev. # 2

Rev. Date: 1/15/2011

Component Analysis - WHMIS IDL

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

Component	CAS #	Minimum Concentration
Ethylacetate	141-78-6	1 % (English Item 689, French Item 17)
Chlorobenzene	108-90-7	1 % (English Item 346, French Item 414)

EUROPE:

Component Analysis

Component (CAS#)	EC #
Ethylacetate (141-78-6)	205-500-4
Thionophosphoric acid, tris-(p-isocyanatophenyl) (4151-51-3)	223-981-9
Chlorobenzene (108-90-7)	203-628-5

16. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

NFPA Ratings: Health: 2 Fire: 3 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.