

MATERIAL SAFETY DATA SHEET

1180-66 TRI-BOND ADDITIVE

PRODUCT NAME: 1180-66 TRI-BOND ADDITIVE
PRODUCT CODE: 1180-66

HMIS CODES: H F R P
3*1 2 H

===== **SECTION I - MANUFACTURER IDENTIFICATION** =====

MANUFACTURED FOR: Triangle Ink Co., Inc.
ADDRESS: 53-57 Van Dyke Street
Wallington, NJ 07057

EMERGENCY PHONE : 800-429-9300 (CHEMTREC) **DATE PRINTED :** 09/16/2004
INTRNATIONAL : 703-527-3887
INFORMATION PHONE : 201-935-2777

===== **SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION** =====

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESSURE MM HG @ TEMP	WEIGHT PERCENT
* DIBUTYL PHTHALATE OSHA PEL: 5 mg/m3, ACGIH TLV: 5 mg/m3 LC50 = 1.6 mg/L (96 h, Salmo gairdneri). EC50 = 3.4 mg/L (48 h, Daphnia magna) EC50 = 0.75 mg/L (96 h, Selenastrum)	84-74-2	0.00010 77.00000	60 - 80
TOLUENE DIISOCYANATE HOMOPOLYMER	9017-01-0	0.00000 0.00000	20 - 40
TOLUENE DIISOCYANATE OSHA PEL: .005ppmTWA, ACGIH TLV: .005ppmTWA, OTHER: .020ppmSTE LC50 -96 hr (static) : 165 mg/liter (fathead minnow) LC50 -96 hr (static) : greater than 508 mg/liter (Grass shrimp) LC50 - 24 hr (static): Greater than 500 mg/liter (Daphnia magna) LD50 - ORAL RAT : RANGE OF 4130-6170	26471-62-5	0.00000 0.00000	< 0.2

* Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372. TDI residual monomer content is less than 0.7% based on resin solids. Warning: The State of California safe drinking Water and Toxic Enforcement Act of 1986 (Prop. 65) recognizes TDI, cas# 26471-62-5 as a chemical known to cause cancer.

===== **SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS** =====

BOILING RANGE: 356 DEG F **SPECIFIC GRAVITY (H2O=1):** 1.13
VAPOR DENSITY: HEAVIER THAN AIR **EVAPORATION RATE:** SLOWER THAN ETHER
MATERIAL V.O.C.: . lb/gl
SOLUBILITY IN WATER: Non Soluble
APPEARANCE AND ODOR: Colorless to yellow liquid, with weak aromatic odor.

===== **SECTION IV - FIRE AND EXPLOSION HAZARD DATA** =====

FLASH POINT: 356 deg F **METHOD USED:** DIN 51758
FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: 0.50000 UPPER: 2.50000
EXTINGUISHING MEDIA: ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG, OTHER

SPECIAL FIREFIGHTING PROCEDURES

THE USE OF SELF CONTAINED BREATHING APPARATUS IS RECOMMENDED FOR FIRE FIGHTERS. WATER MAY BE UNSUITABLE AS AN EXTINGUISHING MEDIA, BUT HELPFUL IN KEEPING CONTAINERS COOL.

UNUSUAL FIRE AND EXPLOSION HAZARDS

DURING A FIRE, TDI VAPORS AND OTHER IRRITATING, HIGHLY TOXIC VAPORS MAY BE GENERATED. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT OR BURST WHEN CONTAMINATED WITH WATER.

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===== SECTION V - REACTIVITY DATA =====

STABILITY: STABLE

CONDITIONS TO AVOID:

HIGH TEMPERATURES OR CONTACT WITH MOISTURE.

INCOMPATIBILITY (MATERIALS TO AVOID)

AVOID CONTACT WITH WATER, ALCOHOLS, AMINES, STRONG BASES, METAL COMPOUNDS OR SURFACE ACTIVE MATERIALS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

BY HIGH HEAT AND FIRE CARBON DIOXIDE, CARBON MONOXIDE, OXIDES OF NITROGEN, HYDROGEN CYANIDE, TDI VAPORS, OTHERS UNDETERMINED.

HAZARDOUS POLYMERIZATION:

MAY OCCUR; HIGH HEAT OR CONTACT WITH MOISTURE OR

OTHER MATERIALS WHICH REACT WITH ISOCYANATES MAY CAUSE POLYMERIZATION.

===== SECTION VI - HEALTH HAZARD DATA =====

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

INHALATION OF VAPOR ABOVE TLV MAY CAUSE RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND OR FATIGUE. HEADACHE OR NARCOSIS ARE OTHER POSSIBLE SYMPTOMS AND ARE USUALLY REVERSIBLE EFFECTS.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

IRRITATION OF EYES AND SKIN, REDNESS AND BURNING

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

THIS PRODUCT IN PROLONGED SKIN CONTACT WILL CAUSE SKIN SENSITIZATION AND DRY, DEFATTED SKIN MAY OCCUR.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

CAN RESULT IN IRRITATION IN THE MOUTH, STOMACH TISSUE AND DIGESTIVE TRACT. SYMPTOMS CAN INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA.

HEALTH HAZARDS (ACUTE AND CHRONIC)

Acute hazards are listed above. Chronic hazards from inhalation include sensitization to lower than TLV levels, memory loss, lung damage and other Neurotoxic effects. Eye contact may cause conjunctivitis. Skin contact may cause skin sensitization. Ingestion may cause chronic hazards such as testicular atrophy and loss of testicular zinc.

CARCINOGENICITY: NTP CARCINOGEN: Yes IARC MONOGRAPHS: Yes OSHA REGULATED: No

TDI is listed under NTP in its Fourth Annual Report on carcinogens. IARC lists TDI as a possible human carcinogen.(Group 2B)

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

ASTHMA and other respiratory disorders (BRONCHITIS, EMPHYSEMA, BRONCHIAL HYPERACTIVITY): SKIN ALLERGIES, ECZEMA

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: MOVE TO FRESH AIR. ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. **SKIN CONTACT:** REMOVE CONTAMINATED CLOTHING IMMEDIATELY. WASH AFFECTED AREAS WITH SOAP OR TINCTURE OF GREEN SOAP AND LARGE AMOUNT OF WATER, PREFERABLY UNDER SAFETY SHOWER. **EYE CONTACT:** FLUSH WITH LARGE AMOUNT OF WATER, HOLDING EYELIDS OPEN UNTIL IRRITATION SUBSIDES. IF IRRITATION PERSISTS, SEEK MEDICAL HELP. **INGESTION:** IF SWALLOWED, DO NOT INDUCE VOMITING. ONLY IF VICTIM IS NOT UNCONSCIOUS, GIVE A GLASS OF MILK OR WATER TO DRINK. GET PROMPT MEDICAL ATTENTION. DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO A DROWSY OR UNCONSCIOUS PERSON.

===== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE =====

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

KEEP SPECTATORS AWAY. FLOORS MAY BE SLIPPERY; USE CARE TO AVOID FALLING. CONTAIN SPILLS IMMEDIATELY BY WIPING UP WITH ABSORBENT MATERIAL, THEN RINSE WITH WATER AND REPEAT WIPE UP.

WASTE DISPOSAL METHOD

MUST BE DISPOSED OF IN A PERMITTED INCINERATOR (PREFERRED) OR LANDFILL IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

KEEP AWAY FROM HEAT, SPARKS OR OPEN FLAME. GROUND CONTAINERS WHEN HANDLING AND TRANSFERRING CONTENTS. TIGHTLY CLOSE ALL CONTAINERS TO PREVENT MOISTURE CONTAMINATION. IDEAL STORAGE TEMPERATURE IS 50 - 81 F (10 - 27C).

OTHER PRECAUTIONS

LIMIT STORAGE TO 6 (SIX) MONTHS AT 77F (25C).

===== **SECTION VIII - CONTROL MEASURES** =====

RESPIRATORY PROTECTION

When spraying this material use a NIOSH approved cartridge respirator or gas mask suitable to keep airborne mists and vapor concentrations below the time- weighted threshold limit values. When using in poorly ventilated and confined spaces, use a fresh-air supplying respirator or a self-contained breathing apparatus.

VENTILATION

General mechanical ventilation may be sufficient to keep product concentration within specified time weighted TLV range.

PROTECTIVE GLOVES

THE USE OF IMPERMEABLE GLOVES IS ADVISED TO PREVENT SKIN IRRITATION.

EYE PROTECTION

SAFETY GLASSES WITH SIDE SHIELDS, CHEMICAL GOGGLES AND/OR FACE SHIELDS ARE RECOMMENDED. CONTACT LENSES SHOULD NOT BE WORN.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

SKIN PROTECTIVE CLOTHING MUST BE WORN.

WORK/HYGIENIC PRACTICES

EYE WASHES AND SAFETY SHOWERS IN THE WORKPLACE ARE RECOMMENDED.

===== **SECTION IX – TRANSPORTATION & REGULATORY** =====

TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME: Polyisocyanate in Dibutyl phthalate contains Toluene Diisocyanate

FREIGHT CLASS PACKAGE: Isocyanate

FREIGHT CLASS PACKAGE: Chemicals NOI (Isocyanate) (NMFC 60000)

PRODUCT LABEL.....: 1180-66 Tri-Bond Additive

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Liquid N.O.S.

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HAZARD CLASS OR DIVISION: 9
UN/NA NUMBER: UN3082
PACKING GROUP: I I I
DOT PRODUCT RQ lbs (kgs): 14 lbs (6.4 kgs)
HAZARD LABEL (s): Class 9
HAZARD PLACARD (s): Class 9

- When in individual containers of less than the Product RQ, this material ships as non-regulated.

IMO / IMDG CODE (OCEAN)

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Liquid, N.O.S.
HAZARD CLASS DIVISION NUMBER: 9
UN NUMBER: UN3082
PACKAGING GROUP: I I I
HAZARD LABEL (s): Marine Pollutant (Mark)
HAZARD PLACARD (s): Marine Pollutant

ICAO / IATA (AIR)

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Liquid, N.O.S.
HAZARD CLASS DIVISION NUMBER: 9
UN NUMBER: UN3082
SUBSIDIARY RISK: None
PACKING GROUP: I I I
HAZARD LABEL(s): Miscellaneous
RADIOACTIVE?: Non-Radioactive
PASSENGER AIR – MAX. QTY,.....: No Limit
PASSENGER PACKING INSTRUCTION: 914
CARGO AIR – MAX. QTY,: No Limit
CARGO AIR PACKING INSTRUCTION: 914

REGULATORY INFORMATION

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA
Communication Standard 29 CFR 1910-1200

TSCA STATUS: On TSCA Inventory

CERCLA REPORTABLE QUANTITY: Toluene Diisocyanate (TDI) – 100 lbs: Dibutyl Phthalate (DBP) – 10 lbs

SARA TITLE III:

SECTION 302 EXTREMELY

HAZARDOUS SUBSTANCES: 2,4-Toluene Diisocyanate (TDI), (CAS # 584-84-9) , Less than 0.10%
2,6-Toluene Diisocyanate (TDI), (CAS # 91-08-7), Less than 0.10%

SECTION 311/312

HAZARD CATEGORIES: Immediate Health Hazard; Delayed Health Hazard; Reactive Hazard

SECTION 313

TOXIC CHEMICALS: 2,4- Toluene Diisocyanate (TDI), (CAS # 584-84-9), Less than 0.10%
2,6- Toluene Diisocyanate (TDI), (CAS # 91-08-7), Less than 0.10%
Dibutyl Phthalate (DBP), (CAS # 84-74-2) – 70%

RCRA STATUS: Dibutyl Phthalate (DBP) and Toluene Diisocyanate (TDI) are listed as RCRA
Hazardous wastes and should be managed as hazardous wastes (EPA Hazardous

