

 Close this window

SDS

Common Name: THERMAL BLOCK**Manufacturer:** PARKER HANNIFIN**SDS Revision Date:** 1/28/2015**SDS Format:** GHS-US**Grainger Item Number(s):** 4E846**Manufacturer Model Number(s):**

SDS Table of Contents

Click the desired link below to jump directly to that section in the SDS.

[SECTION 1. IDENTIFICATION](#)
[SECTION 2. HAZARDS IDENTIFICATION](#)
[SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS](#)
[SECTION 4. FIRST-AID MEASURES](#)
[SECTION 5. FIRE-FIGHTING MEASURES](#)
[SECTION 6. ACCIDENTAL RELEASE MEASURES](#)
[SECTION 7. HANDLING AND STORAGE](#)
[SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION](#)
[SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES](#)
[SECTION 10. STABILITY AND REACTIVITY](#)
[SECTION 11. TOXICOLOGICAL INFORMATION](#)
[SECTION 12. ECOLOGICAL INFORMATION](#)
[SECTION 13. DISPOSAL CONSIDERATIONS](#)
[SECTION 14. TRANSPORTATION INFORMATION](#)
[SECTION 15. REGULATORY INFORMATION](#)
[SECTION 16. OTHER INFORMATION](#)

PARKER

PARKER HANNIFIN CORPORATION
SPORLAN DIVISION
206 LANGE DRIVE
WASHINGTON, MO 63090
USA

THERMAL BLOCK

TB2 (P/N 475322)

SDS REVISION DATE (MM/DD/YYYY): 01/28/2015

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION



PRODUCT IDENTIFIER USED ON THE LABEL: THERMAL BLOCK

PRODUCT CODE(S): TB2 (P/N 475322)

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:
PROFESSIONAL USE ONLY; ABSORBS HEAT GENERATED BY WELDING, BRAZING OR
SOLDERING.

CHEMICAL FAMILY: MIXTURE.

NAME, ADDRESS, AND TELEPHONE NUMBER OF THE SUPPLIER:
PARKER HANNIFIN CORPORATION - SPORLAN DIVISION
206 LANGE DRIVE
WASHINGTON, MO, 63090
U.S.A.

SUPPLIER'S TELEPHONE #: (636) 239-1111

NAME, ADDRESS, AND TELEPHONE NUMBER OF THE MANUFACTURER: REFER TO SUPPLIER

24 HR. EMERGENCY TEL #:
CHEMTREC: 1-800-424-9300 (WITHIN CONTINENTAL U.S.)
CHEMTREC: 703-527-3887 (OUTSIDE U.S.).

SECTION 2. HAZARDS IDENTIFICATION



CLASSIFICATION OF THE CHEMICAL:

WHMIS INFORMATION:

THIS PRODUCT IS A WHMIS CONTROLLED PRODUCT. IT MEETS ONE OR MORE OF THE CRITERIA FOR A CONTROLLED PRODUCT PROVIDED IN PART IV OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS (CPR).

WHMIS CLASSIFICATION: CLASS E (CORROSIVE MATERIAL)

OSHA:

THIS MATERIAL IS CLASSIFIED AS HAZARDOUS UNDER OSHA REGULATIONS (29 CFR 1910.1200) (HAZCOM 2012).

HAZARDOUS CLASSIFICATION:

SKIN IRRITANT: CATEGORY 2
SERIOUS EYE DAMAGE: CATEGORY 1

LABEL ELEMENTS:

THE FOLLOWING LABEL INFORMATION IS APPLICABLE ONLY TO THE UNITED STATES ACCORDING TO OSHA REGULATIONS (29 CFR 1910.1200) (HAZCOM 2012):

SIGNAL WORD:

DANGER!

HAZARD STATEMENT(S):

CAUSES SKIN IRRITATION.
CAUSES SERIOUS EYE DAMAGE.

PRECAUTIONARY STATEMENT(S):

WASH HANDS AND FACE THOROUGHLY AFTER HANDLING.
WEAR PROTECTIVE GLOVES AND EYE/FACE PROTECTION.

SPECIFIC TREATMENT (SEE THIS LABEL).

IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER.

IF SKIN IRRITATION OCCURS, GET MEDICAL ADVICE/ATTENTION.

TAKE OFF CONTAMINATED CLOTHING AND WASH IT BEFORE REUSE.

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 OR DOCTOR/PHYSICIAN.

HAZARD PICTOGRAMS: CORROSION

THE FOLLOWING LABEL INFORMATION IS APPLICABLE ONLY TO CANADA ACCORDING TO THE CANADIAN CONTROLLED PRODUCTS REGULATIONS (CPR/WHMIS):

DANGER!

SEVERELY IRRITATING OR CORROSIVE. CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE RESPIRATORY IRRITATION.

PRECAUTIONS:

USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. WEAR SUITABLE PROTECTIVE EQUIPMENT DURING HANDLING. AVOID BREATHING VAPOUR OR MIST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. KEEP AWAY FROM INCOMPATIBLES. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. - NO SMOKING. STORE IN A COOL, DRY, WELL VENTILATED AREA.

FIRST AID:

FOR SKIN CONTACT, IMMEDIATELY REMOVE ALL CONTAMINATED CLOTHING. FLUSH SKIN THOROUGHLY WITH RUNNING WATER FOR AT LEAST 15 TO 20 MINUTES. IF SKIN IRRITATION OCCURS, SEEK MEDICAL ADVICE/ATTENTION. IF IN CONTACT WITH EYES, IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 20 MINUTES. IMMEDIATELY CALL A POISON CENTRE OR DOCTOR/PHYSICIAN. IF INHALED, MOVE TO FRESH AIR. IF INGESTED, DO NOT INDUCE VOMITING. WHEN SYMPTOMS PERSIST OR IN ALL CASES OF DOUBT SEEK MEDICAL ADVICE.

REFER TO MATERIAL SAFETY DATA SHEET FOR FURTHER INFORMATION.

WHMIS SYMBOLS REQUIRED ON A SUPPLIER LABEL: E - CORROSIVE MATERIAL

OTHER HAZARDS:

OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION:
BURNING PRODUCES OBNOXIOUS AND TOXIC FUMES. INGESTION MAY CAUSE IRRITATION OF THE MOUTH, THROAT AND STOMACH. MAY CAUSE IRRITATION TO THE NOSE, THROAT AND UPPER RESPIRATORY TRACT. WHEN HEATED ABOVE 150 DEG. C IN AIR, MAY RELEASE FORMALDEHYDE GAS. PRODUCT EVOLVES ACETIC ACID WHEN EXPOSED TO WATER OR HUMID AIR.

ENVIRONMENTAL PRECAUTIONS:

AVOID RELEASE TO THE ENVIRONMENT. SEE ECOLOGICAL INFORMATION, SECTION 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS



CHEMICAL NAME	CAS #	CONCENTRATION
METHYLTRIAACETOXSILANE	4253-34-3	1.0 - 5.0
ETHYLTRIAACETOXSILANE	17689-77-9	1.0 - 5.0

POSSIBLE DECOMPOSITION PRODUCTS IN CASE OF HYDROLYSIS ARE:

ACETIC ACID	64-19-7	NOT KNOWN.
-------------	---------	------------

THE FOLLOWING INGREDIENT IS RELEASED FROM THE PRODUCT ONLY WHEN HEATED ABOVE 150 DEG. C:

FORMALDEHYDE	50-00-0	NOT KNOWN.
--------------	---------	------------

NOTE:

ACETIC ACID AND FORMALDEHYDE ARE NOT INTENTIONALLY ADDED TO THIS PRODUCT.

THE EXACT CONCENTRATIONS OF THE ABOVE LISTED CHEMICALS ARE BEING WITHHELD AS A TRADE SECRET.

SECTION 4. FIRST-AID MEASURES



DESCRIPTION OF FIRST AID MEASURES:

INGESTION:

IF INGESTED, DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION.

INHALATION:

IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF BREATHING IS IRREGULAR OR STOPPED, ADMINISTER ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN BY QUALIFIED MEDICAL PERSONNEL ONLY. CONSULT A PHYSICIAN.

SKIN CONTACT:

IF ON SKIN:

WASH WITH PLENTY OF SOAP AND WATER. IF SKIN IRRITATION OCCURS, GET MEDICAL ADVICE/ATTENTION. TAKE OFF CONTAMINATED CLOTHING AND WASH IT BEFORE REUSE.

EYE CONTACT:

IF IN EYES:

RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. DURATION OF RINSING SHOULD BE AT LEAST 20 MINUTES. IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN IRRITATION. INGESTION MAY CAUSE IRRITATION OF THE MOUTH, THROAT AND STOMACH. MAY CAUSE IRRITATION TO THE NOSE, THROAT AND UPPER RESPIRATORY TRACT.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: TREAT SYMPTOMATICALLY.

SECTION 5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:

SUITABLE EXTINGUISHING MEDIA:

USE WATER FOG OR FINE SPRAY, FOAMS, CARBON DIOXIDE OR DRY CHEMICAL.

UNSUITABLE EXTINGUISHING MEDIA:

DO NOT USE WATER JET, AS THIS MAY SPREAD BURNING MATERIAL.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE / CONDITIONS OF FLAMMABILITY:

NOT FLAMMABLE UNDER NORMAL CONDITIONS OF USE. WHEN HEATED ABOVE 150 DEG. C IN AIR, MAY RELEASE FORMALDEHYDE GAS. CLOSED CONTAINERS MAY RUPTURE IF EXPOSED TO EXCESS HEAT OR FLAME DUE TO A BUILD-UP OF INTERNAL PRESSURE. PRODUCT EVOLVES ACETIC ACID WHEN EXPOSED TO WATER OR HUMID AIR.

FLAMMABILITY CLASSIFICATION (OSHA 29 CFR 1910.106): NON-FLAMMABLE.

EXPLOSION DATA:

SENSITIVITY TO MECHANICAL IMPACT / STATIC DISCHARGE:

NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT OR STATIC DISCHARGE.

HAZARDOUS COMBUSTION PRODUCTS:

CARBON OXIDES; FORMALDEHYDE; SILICON OXIDES; SILICA; FORMIC ACID; ACETIC ACID; OTHER UNIDENTIFIED ORGANIC COMPOUNDS.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:

PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS:

FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE OPERATED IN POSITIVE PRESSURE MODE.

SPECIAL FIRE-FIGHTING PROCEDURES:

MOVE CONTAINERS FROM FIRE AREA IF SAFE TO DO SO. WATER SPRAY MAY BE USEFUL IN COOLING EQUIPMENT EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER SPRAY USED FOR COOLING PURPOSES.

SECTION 6. ACCIDENTAL RELEASE MEASURES



PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: RESTRICT ACCESS TO AREA UNTIL COMPLETION OF CLEAN-UP. ENSURE CLEAN-UP IS CONDUCTED BY TRAINED PERSONNEL ONLY. ALL PERSONS DEALING WITH THE CLEAN-UP SHOULD WEAR THE APPROPRIATE CHEMICALLY PROTECTIVE EQUIPMENT. REFER TO PROTECTIVE MEASURES LISTED IN SECTIONS 7 AND 8.

ENVIRONMENTAL PRECAUTIONS:

ENSURE SPILLED PRODUCT DOES NOT ENTER DRAINS, SEWERS, WATERWAYS, OR CONFINED SPACES. IF NECESSARY, DIKE WELL AHEAD OF THE SPILL TO PREVENT RUNOFF INTO DRAINS, SEWERS, OR ANY NATURAL WATERWAY OR DRINKING SUPPLY.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

REMOVE ALL SOURCES OF IGNITION. VENTILATE AREA OF RELEASE. STOP THE SPILL AT SOURCE IF IT IS SAFE TO DO SO. COVER ANY SPILLED MATERIAL WITH NON-COMBUSTIBLE ABSORBENT MATERIAL, SUCH AS VERMICULITE OR SAND, THEN PLACE ABSORBENT MATERIAL INTO A CONTAINER FOR LATER DISPOSAL (SEE SECTION 13). NOTIFY THE APPROPRIATE AUTHORITIES AS REQUIRED.

SPECIAL SPILL RESPONSE PROCEDURES:

IF A SPILL/RELEASE IN EXCESS OF THE EPA REPORTABLE QUANTITY IS MADE INTO THE ENVIRONMENT, IMMEDIATELY NOTIFY THE NATIONAL RESPONSE CENTER IN THE UNITED STATES (PHONE: 1-800-424-8802).

US CERCLA REPORTABLE QUANTITY (RQ): NONE REPORTED.

SECTION 7. HANDLING AND STORAGE



PRECAUTIONS FOR SAFE HANDLING:

USE ONLY IN WELL-VENTILATED AREAS. WEAR PROTECTIVE EQUIPMENT DURING HANDLING. IMPERVIOUS GLOVES MUST BE WORN WHEN USING THIS PRODUCT. AVOID BREATHING VAPORS, FUMES OR DUST. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. PROTECT FROM MOISTURE. KEEP CONTAINER TIGHTLY CLOSED. EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOUR) AND CAN BE DANGEROUS. WASH THOROUGHLY AFTER HANDLING.

CONDITIONS FOR SAFE STORAGE:

KEEP CONTAINERS TIGHTLY CLOSED IN A COOL, WELL-VENTILATED PLACE. KEEP AWAY FROM INCOMPATIBLES. INSPECT PERIODICALLY FOR DAMAGE OR LEAKS. STORE OUT OF DIRECT SUNLIGHT. KEEP CONTAINERS DRY AND TIGHTLY CLOSED TO AVOID MOISTURE ABSORPTION AND CONTAMINATION.

INCOMPATIBLE MATERIALS:

STRONG OXIDIZING AGENTS; STRONG ACIDS; BASES; WATER.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION



EXPOSURE LIMITS:

CHEMICAL NAME	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
METHYLTRIAACETOXYSILANE	N/AV	N/AV	N/AV	N/AV
ETHYLTRIAACETOXYSILANE	N/AV	N/AV	N/AV	N/AV

ACETIC ACID	10 PPM	15 PPM	10 PPM 25 MG/M3	N/AV
FORMALDEHYDE	0.3 PPM (CEILING)	N/AV	0.75 PPM	2 PPM

ACETIC ACID AND FORMALDEHYDE ARE NOT INTENTIONALLY ADDED TO THIS PRODUCT. THE ABOVE EXPOSURE LIMITS ARE PROVIDED FOR SAFETY REASONS.

EXPOSURE CONTROLS:

VENTILATION AND ENGINEERING MEASURES:

USE ONLY IN WELL-VENTILATED AREAS. PROVIDE SUFFICIENT VENTILATION TO KEEP VAPOUR CONCENTRATION BELOW THE GIVEN TLV AND/OR PEL.

RESPIRATORY PROTECTION:

RESPIRATORY PROTECTION IS REQUIRED IF THE CONCENTRATIONS EXCEED THE TLV. USE NIOSH/MSHA APPROVED EQUIPMENT. ADVICE SHOULD BE SOUGHT FROM RESPIRATORY PROTECTION SPECIALISTS.

SKIN PROTECTION:

IMPERVIOUS GLOVES MUST BE WORN WHEN USING THIS PRODUCT. ADVICE SHOULD BE SOUGHT FROM GLOVE SUPPLIERS.

EYE / FACE PROTECTION:

CHEMICAL SPLASH GOGGLES MUST BE WORN WHEN HANDLING THIS MATERIAL.

OTHER PROTECTIVE EQUIPMENT:

WHERE EXTENSIVE EXPOSURE TO PRODUCT IS POSSIBLE, USE RESISTANT COVERALLS, APRON AND BOOTS TO PREVENT CONTACT. ENSURE THAT EYEWASH STATIONS AND SAFETY SHOWERS ARE CLOSE TO THE WORKSTATION LOCATION.

GENERAL HYGIENE CONSIDERATIONS:

AVOID BREATHING VAPORS OR MISTS. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. UPON COMPLETION OF WORK, WASH HANDS BEFORE EATING, DRINKING, SMOKING OR USE OF TOILET FACILITIES. REMOVE SOILED CLOTHING AND WASH IT THOROUGHLY BEFORE REUSE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES



APPEARANCE: TRANSLUCENT GEL.

ODOUR: MILD ODOR.

ODOUR THRESHOLD: N/AV

PH: N/AV

MELTING/FREEZING POINT: N/AV

INITIAL BOILING POINT AND BOILING RANGE: N/AV

FLASH POINT: >100 DEG. C (>212 DEG. F)

FLASHPOINT (METHOD): SETA CLOSED CUP

EVAPORATION RATE (BUAE = 1): <1

FLAMMABILITY (SOLID, GAS): N/AP

LOWER FLAMMABLE LIMIT (% BY VOL.): N/AV

UPPER FLAMMABLE LIMIT (% BY VOL.): N/AV

OXIDIZING PROPERTIES: NONE KNOWN.

EXPLOSIVE PROPERTIES: NOT EXPLOSIVE

VAPOUR PRESSURE: N/AV

VAPOUR DENSITY: N/AV

RELATIVE DENSITY / SPECIFIC GRAVITY: 1.0

SOLUBILITY IN WATER: MAY REACT WITH WATER.

OTHER SOLUBILITY(IES): N/AV

PARTITION COEFFICIENT N-OCTANOL/WATER OR COEFFICIENT OF WATER/OIL DISTRIBUTION: N/AV

AUTO-IGNITION TEMPERATURE: N/AV

DECOMPOSITION TEMPERATURE: N/AV

VISCOSITY: APPROXIMATELY 10000 CPS

VOLATILES (% BY WEIGHT): N/AV

VOLATILE ORGANIC COMPOUNDS (VOC'S): N/AV

ABSOLUTE PRESSURE OF CONTAINER: N/AP

FLAME PROJECTION LENGTH: N/AP

OTHER PHYSICAL/CHEMICAL COMMENTS: NO ADDITIONAL INFORMATION.

SECTION 10. STABILITY AND REACTIVITY



REACTIVITY: PRODUCT EVOLVES ACETIC ACID WHEN EXPOSED TO WATER OR HUMID AIR.

CHEMICAL STABILITY:

STABLE UNDER THE RECOMMENDED STORAGE AND HANDLING CONDITIONS PRESCRIBED. WHEN HEATED ABOVE 150 DEG. C IN AIR, MAY RELEASE FORMALDEHYDE GAS.

POSSIBILITY OF HAZARDOUS REACTIONS:

HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

CONDITIONS TO AVOID: DIRECT SOURCES OF HEAT. AVOID MOISTURE.

INCOMPATIBLE MATERIALS:

STRONG OXIDIZING AGENTS; STRONG ACIDS; BASES; WATER.

HAZARDOUS DECOMPOSITION PRODUCTS:

FORMALDEHYDE GAS. REFER ALSO TO HAZARDOUS COMBUSTION PRODUCTS, SECTION 5.

SECTION 11. TOXICOLOGICAL INFORMATION



INFORMATION ON LIKELY ROUTES OF EXPOSURE:

ROUTES OF ENTRY INHALATION: YES

ROUTES OF ENTRY SKIN & EYE: YES

ROUTES OF ENTRY INGESTION: YES

ROUTES OF EXPOSURE SKIN ABSORPTION: NO

POTENTIAL HEALTH EFFECTS:

SIGNS AND SYMPTOMS OF SHORT-TERM (ACUTE) EXPOSURE:

SIGN AND SYMPTOMS INHALATION:

MAY CAUSE IRRITATION OF THE NOSE, THROAT, MUCOUS MEMBRANES, AND RESPIRATORY TRACT. AVOID HEATING, WHICH WILL RESULT IN THE LIBERATION OF FORMALDEHYDE GAS. FORMALDEHYDE CAUSES SEVERE RESPIRATORY IRRITATION, LUNG INFLAMMATION AND PULMONARY EDEMA. SYMPTOMS OF PULMONARY EDEMA (CHEST PAIN, SHORTNESS OF

BREATH) MAY BE DELAYED.

SIGN AND SYMPTOMS INGESTION:

INGESTION MAY CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING AND DIARRHEA.

SIGN AND SYMPTOMS SKIN:

CAUSES SEVERE SKIN IRRITATION. AVOID CONTACT WITH WATER, WHICH WILL RESULT IN THE LIBERATION OF ACETIC ACID. ACETIC ACID CAN BE SEVERELY IRRITATING OR CORROSIVE.

SIGN AND SYMPTOMS EYES:

CAUSES SERIOUS EYE DAMAGE. AVOID HEATING, WHICH WILL RESULT IN THE LIBERATION OF FORMALDEHYDE GAS. FORMALDEHYDE GAS CAUSES MODERATE TO SEVERE EYE IRRITATION. AVOID CONTACT WITH WATER, WHICH WILL RESULT IN THE LIBERATION OF ACETIC ACID. ACETIC ACID CAN BE SEVERELY IRRITATING OR CORROSIVE.

POTENTIAL CHRONIC HEALTH EFFECTS: NONE EXPECTED, WHEN USED AS INTENDED.

MUTAGENICITY:

NO DATA AVAILABLE TO INDICATE PRODUCT OR ANY COMPONENTS PRESENT AT GREATER THAN 0.1% ARE MUTAGENIC OR GENOTOXIC. THIS PRODUCT DOES NOT MEET THE CRITERIA FOR GERM CELL MUTAGENS UNDER OSHA REGULATIONS (29 CFR 1910.1200) (HAZCOM 2012). AVOID HEATING, WHICH WILL RESULT IN THE LIBERATION OF FORMALDEHYDE GAS. FORMALDEHYDE MAY CAUSE MUTATIONS TO NON-REPRODUCTIVE (SOMATIC) CELLS, BASED ON ANIMAL DATA.

CARCINOGENICITY:

NO COMPONENTS ARE LISTED AS CARCINOGENS BY ACGIH, IARC, OSHA OR NTP. THIS PRODUCT DOES NOT MEET THE CRITERIA FOR CARCINOGENS UNDER OSHA REGULATIONS (29 CFR 1910.1200) (HAZCOM 2012).

AVOID HEATING, WHICH WILL RESULT IN THE LIBERATION OF FORMALDEHYDE GAS. FORMALDEHYDE IS CLASSIFIED AS CARCINOGENIC BY IARC (GROUP 1), ACGIH (GROUP A2) AND NTP (GROUP 2).

REPRODUCTIVE EFFECTS & TERATOGENICITY:

THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS UNDER OSHA REGULATIONS (29CFR 1910.1200) (HAZCOM 2012).

SENSITIZATION TO MATERIAL:

NOT EXPECTED TO BE A SKIN OR RESPIRATORY SENSITIZER. THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS UNDER OSHA REGULATIONS (29CFR 1910.1200) (HAZCOM 2012).

AVOID HEATING, WHICH WILL RESULT IN THE LIBERATION OF FORMALDEHYDE GAS. FORMALDEHYDE MAY CAUSE SENSITISATION BY SKIN CONTACT.

SPECIFIC TARGET ORGAN EFFECTS:

THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS UNDER OSHA REGULATIONS (29CFR 1910.1200) (HAZCOM 2012).

IRRITANCY: CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN IRRITATION.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

PRE-EXISTING SKIN, EYE AND RESPIRATORY DISORDERS.

SYNERGISTIC MATERIALS: NO INFORMATION AVAILABLE.

TOXICOLOGICAL DATA:

NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.

THE CALCULATED ATE VALUES FOR THIS MIXTURE ARE:

ATE ORAL: 18386 MG/KG

SEE BELOW FOR INDIVIDUAL INGREDIENT ACUTE TOXICITY DATA.

CHEMICAL NAME	LC50 (4HR)	LD50
	INH, RAT	(ORAL, RAT) (RABBIT, DERMAL)

METHYLTRIACETOXYSILANE	N/AV	1062 MG/KG	N/AV
ETHYLTRIACETOXYSILANE	N/AV	1462 MG/KG	N/AV

POSSIBLE DECOMPOSITION PRODUCTS IN CASE OF HYDROLYSIS ARE:

ACETIC ACID	11400 MG/M3 (11.4 MG/L)	3310 MG/KG	1060 MG/KG
	2810 PPM (6.95 MG/L) (MOUSE)		

THE FOLLOWING INGREDIENT IS RELEASED FROM THE PRODUCT ONLY WHEN HEATED ABOVE 150 DEG. C:

FORMALDEHYDE	287 PPM	800 MG/KG	300 MG/KG
--------------	---------	-----------	-----------

OTHER IMPORTANT TOXICOLOGICAL HAZARDS:

AVOID CONTACT WITH WATER, WHICH WILL RESULT IN THE LIBERATION OF ACETIC ACID. ACETIC ACID CAN BE SEVERELY IRRITATING OR CORROSIVE.

SECTION 12. ECOLOGICAL INFORMATION



ECOTOXICITY:

NO DATA IS AVAILABLE ON THE PRODUCT ITSELF. THE PRODUCT SHOULD NOT BE ALLOWED TO ENTER DRAINS OR WATER COURSES, OR BE DEPOSITED WHERE IT CAN AFFECT GROUND OR SURFACE WATERS. SEE THE FOLLOWING TABLES FOR INDIVIDUAL INGREDIENT ECOTOXICITY DATA.

ECOTOXICITY DATA:

INGREDIENTS	CAS NO	TOXICITY TO FISH		
		LC50 / 96H	NOEC / 21 DAY	M FACTOR
METHYLTRIACETOXYSILANE	4253-34-3	N/AV	N/AV	N/AV
ETHYLTRIACETOXYSILANE	17689-77-9	251 MG/L (ZEBRA FISH)	N/AV	NONE.
ACETIC ACID	64-19-7	N/AV	N/AV	N/AV
FORMALDEHYDE	50-00-0	6.7 MG/L (STRIPED BASS)	N/AV	NONE.
INGREDIENTS	CAS NO	TOXICITY TO DAPHNIA		
		EC50 48H	NOEC / 21 DAY	M FACTOR
METHYLTRIACETOXYSILANE	4253-34-3	N/AV	N/AV	N/AV
ETHYLTRIACETOXYSILANE	17689-77-9	62 MG/L (WATER FLEA)	N/AV	NONE.
ACETIC ACID	64-19-7	65 MG/L (WATER FLEA)	37.9 MG/L (WATER FLEA)	N/AP
FORMALDEHYDE	50-00-0	5.8 MG/L	N/AV	NONE.
INGREDIENTS	CAS NO	TOXICITY TO ALGAE		
		EC50 96H OR 72H	NOEC / 96H OR 72H	M FACTOR
METHYLTRIACETOXYSILANE	4253-34-3	N/AV	N/AV	N/AV
ETHYLTRIACETOXYSILANE	17689-77-9	N/AV	N/AV	N/AV

ACETIC ACID	64-19-7	N/AV	N/AV	N/AV
FORMALDEHYDE	50-00-0	14.7 MG/L/24HR	N/AV	NONE.

PERSISTENCE AND DEGRADABILITY: THE PRODUCT ITSELF HAS NOT BEEN TESTED.

BIOACCUMULATION POTENTIAL: THE PRODUCT ITSELF HAS NOT BEEN TESTED.

MOBILITY IN SOIL: THE PRODUCT ITSELF HAS NOT BEEN TESTED.

OTHER ADVERSE ENVIRONMENTAL EFFECTS: NONE KNOWN.

SECTION 13. DISPOSAL CONSIDERATIONS



HANDLING FOR DISPOSAL:

HANDLE WASTE ACCORDING TO RECOMMENDATIONS IN SECTION 7. EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOUR) AND CAN BE DANGEROUS.

METHODS OF DISPOSAL:

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, PROVINCIAL AND LOCAL REGULATIONS.

RCRA:

IF THIS PRODUCT, AS SUPPLIED, BECOMES A WASTE IN THE UNITED STATES, IT MAY MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED UNDER RCRA, TITLE 40 CFR 261. IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO DETERMINE THE PROPER WASTE IDENTIFICATION AND DISPOSAL METHOD. FOR DISPOSAL OF UNUSED OR WASTE MATERIAL, CHECK WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL AGENCIES.

SECTION 14. TRANSPORTATION INFORMATION



REGULATORY INFORMATION	UN NUMBER	UN PROPER SHIPPING NAME	TRANSPORT HAZARD CLASS (ES)	PACKING GROUP	LABEL
49CFR/DOT	NONE	NOT REGULATED.	NOT REGULATED	NONE	NO PLACARD REQUIRED
49CFR/DOT ADDITIONAL INFORMATION	NONE.				
TDG	NONE	NOT REGULATED.	NOT REGULATED	NONE	NO PLACARD REQUIRED
TDG ADDITIONAL INFORMATION	NONE.				
ICAO/IATA	NONE	NOT REGULATED.	NOT REGULATED	NONE	NO PLACARD REQUIRED
ICAO/IATA ADDITIONAL INFORMATION	NONE.				

SPECIAL PRECAUTIONS FOR USER:

APPROPRIATE ADVICE ON SAFETY MUST ACCOMPANY THE PACKAGE.

ENVIRONMENTAL HAZARDS:

THIS PRODUCT DOES NOT MEET THE CRITERIA FOR AN ENVIRONMENTALLY HAZARDOUS MIXTURE, ACCORDING TO THE IMDG CODE. SEE ECOLOGICAL INFORMATION, SECTION 12.

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:
THIS INFORMATION IS NOT AVAILABLE.

SECTION 15. REGULATORY INFORMATION



US FEDERAL INFORMATION:

COMPONENTS LISTED BELOW ARE PRESENT ON THE FOLLOWING U.S. FEDERAL CHEMICAL LISTS:

INGREDIENTS	CAS #	TSCA INVENTORY	CERCLA REPORTABLE QUANTITY (RQ) (40 CFR 117.302)
METHYLTRIAACETOXYSILANE	4253-34-3	YES	N/AP
ETHYLTRIAACETOXYSILANE	17689-77-9	YES	N/AP
ACETIC ACID	64-19-7	YES	5000 LB / 2270 KG
FORMALDEHYDE	50-00-0	YES	100 LBS / 45.4 KG

INGREDIENTS	SARA TITLE III: SEC. 302, EXTREMELY HAZARDOUS SUBSTANCE, 40 CFR 355	SARA TITLE III: SEC. 313, 40 CFR 372, SPECIFIC TOXIC CHEMICAL TOXIC CHEMICAL DE MINIMUS CONCENTRATION
METHYLTRIAACETOXYSILANE	N/AP	NO
ETHYLTRIAACETOXYSILANE	N/AP	NO
ACETIC ACID	N/AP	NO
FORMALDEHYDE	500 LB TPQ	YES

SARA TITLE III:
SEC. 311 AND 312, MSDS REQUIREMENTS, 40 CFR 370 HAZARD CLASSES:
IMMEDIATE (ACUTE) HEALTH HAZARD. UNDER SARA SECTIONS 311 AND 312, THE EPA
HAS ESTABLISHED THRESHOLD QUANTITIES FOR THE REPORTING OF HAZARDOUS
CHEMICALS. THE CURRENT THRESHOLDS ARE 500 POUNDS FOR THE THRESHOLD PLANNING
QUANTITY (TPQ), WHICHEVER IS LOWER, FOR EXTREMELY HAZARDOUS SUBSTANCES AND
10,000 POUNDS FOR ALL OTHER HAZARDOUS CHEMICALS.

SARA TITLE III:
SEC. 313, TOXIC CHEMICALS NOTIFICATION, 40 CFR 372:

US STATE RIGHT TO KNOW LAWS:

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES:

INGREDIENTS	CAS #	CALIFORNIA		STATE "RIGHT TO KNOW" LISTS					
		PROPOSITION 65 LISTED	TYPE OF TOXICITY	CA	MA	MN	NJ	PA	RI
METHYLTRI- ACETOXYSILANE	4253-34-3	NO	N/AP	NO	NO	NO	NO	NO	NO
ETHYLTRIAACE- TOXYSILANE	17689-77-9	NO	N/AP	NO	NO	NO	NO	NO	NO
ACETIC ACID	64-19-7	NO	N/AP	YES	YES	YES	YES	YES	YES
FORMALDEHYDE	50-00-0	YES	CARCINOGEN (GAS)	YES	YES	YES	YES	YES	YES

CANADIAN INFORMATION:

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) INFORMATION:
ALL INGREDIENTS LISTED APPEAR ON THE DOMESTIC SUBSTANCES LIST (DSL).

WHMIS INFORMATION:

REFER TO SECTION 2 FOR A WHMIS CLASSIFICATION FOR THIS PRODUCT.

THIS PRODUCT HAS BEEN CLASSIFIED ACCORDING TO THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL OF THE INFORMATION REQUIRED BY THE CPR.

INTERNATIONAL INFORMATION:

COMPONENTS LISTED BELOW ARE PRESENT ON THE FOLLOWING INTERNATIONAL INVENTORY LIST:

INGREDIENTS	CAS #	EUROPEAN EINECS	AUSTRALIA AICS	PHILIPPINES PICCS
METHYLTRIAACETOXYSILANE	4253-34-3	224-221-9	PRESENT	PRESENT
ETHYLTRIAACETOXYSILANE	17689-77-9	241-677-4	PRESENT	PRESENT
ACETIC ACID	64-19-7	200-580-7	PRESENT	PRESENT
FORMALDEHYDE	50-00-0	200-001-8	PRESENT	PRESENT

INGREDIENTS	JAPAN ENCS	KOREA KECI/KECL	CHINA IECSC	NEWZEALAND IOC
METHYLTRIAACETOXYSILANE	(9)-1939	KE-25331	PRESENT	HSR007291
ETHYLTRIAACETOXYSILANE	(9)-1939	KE-14056	PRESENT	NO INFORMATION AVAILABLE.
ACETIC ACID	(2)-688	KE-00013	PRESENT	HSR000975, HSR001580, HSR001581, HSR001582 (DILUTION)
FORMALDEHYDE	(2)-482	KE-17074	PRESENT	HSR001584, HSR001162, HSR001518, HSR001583 (DILUTION)

SECTION 16. OTHER INFORMATION

LEGEND:

ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

ATE: ACUTE TOXICITY ESTIMATE

CA: CALIFORNIA

CAS: CHEMICAL ABSTRACT SERVICES

CERCLA:

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980

CFR: CODE OF FEDERAL REGULATIONS

DOT: DEPARTMENT OF TRANSPORTATION

EPA: ENVIRONMENTAL PROTECTION AGENCY
HMIS: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM
HSDB: HAZARDOUS SUBSTANCES DATA BANK
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IATA: INTERNATIONAL AIR TRANSPORT ASSOCIATION
ICAO: INTERNATIONAL CIVIL AVIATION ORGANISATION
INH: INHALATION
LC: LETHAL CONCENTRATION
LD: LETHAL DOSE
MA: MASSACHUSETTS
MSHA: MINE SAFETY AND HEALTH ADMINISTRATION
N/AP: NOT APPLICABLE
N/AV: NOT AVAILABLE
NFPA: NATIONAL FIRE PROTECTION ASSOCIATION
NIOSH: NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH
NTP: NATIONAL TOXICOLOGY PROGRAM
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PA: PENNSYLVANIA
PEL: PERMISSIBLE EXPOSURE LIMIT
RCRA: RESOURCE CONSERVATION AND RECOVERY ACT
RTECS: REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
SARA: SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT
STEL: SHORT TERM EXPOSURE LIMIT
TDG: CANADIAN TRANSPORTATION OF DANGEROUS GOODS ACT & REGULATIONS
TLV: THRESHOLD LIMIT VALUES
TWA: TIME WEIGHTED AVERAGE
WHMIS: WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

REFERENCES:

1. ACGIH, THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS & BIOLOGICAL EXPOSURE INDICES FOR 2014.
2. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER MONOGRAPHS, SEARCHED 2014.
3. CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY, CCINFOWEB DATABASES, 2015 (CHEMPENDIUM, HSDB AND RTECS).
4. MATERIAL SAFETY DATA SHEETS FROM MANUFACTURER.
5. US EPA TITLE III LIST OF LISTS - OCTOBER 2012
6. CALIFORNIA PROPOSITION 65 LIST - 26 DECEMBER 2014

PREPARATION DATE (MM/DD/YYYY): 06/18/2012

REVIEWED DATE SDS (DD/MM/YYYY): 28/01/2015

REVISION NO.: 3

REVISION INFORMATION:

(M)SDS SECTIONS UPDATED: ALL

OTHER SPECIAL CONSIDERATIONS FOR HANDLING:

PROVIDE ADEQUATE INFORMATION, INSTRUCTION AND TRAINING FOR OPERATORS.

HMIS RATING:

HEALTH 3

FLAMMABILITY 1

REACTIVITY 1

* - CHRONIC HAZARD

0 - MINIMAL

1 - SLIGHT

2 - MODERATE

3 - SERIOUS

4 - SEVERE

NFPA RATING:

HEALTH 3

FLAMMABILITY 1

INSTABILITY 1

SPECIAL HAZARDS NONE

0 - MINIMAL

1 - SLIGHT

2 - MODERATE

3 - SERIOUS

4 - SEVERE

PREPARED FOR:

PARKER HANNIFIN CORPORATION - SPORLAN DIVISION

206 LANGE DRIVE

WASHINGTON, MO 63090

U.S.A.

TELEPHONE: (636) 239-1111

DIRECT ALL ENQUIRIES TO: PARKER HANNIFIN CORP. - SPORLAN DIVISION.

PARKER

PREPARED BY:

ICC THE COMPLIANCE CENTER INC.

TELEPHONE:

(888) 442-9628 (U.S.)

(888) 977-4834 (CANADA)

HTTP://WWW.THECOMPLIANCECENTER.COM

ICC COMPLIANCE CENTER

DISCLAIMER:

THIS SAFETY DATA SHEET WAS PREPARED BY ICC THE COMPLIANCE CENTER INC. USING INFORMATION PROVIDED BY PARKER HANNIFIN CORPORATION AND CCOHS' WEB INFORMATION SERVICE. THE INFORMATION IN THE SAFETY DATA SHEET IS OFFERED FOR YOUR CONSIDERATION AND GUIDANCE WHEN EXPOSED TO THIS PRODUCT. ICC THE COMPLIANCE CENTER INC AND PARKER HANNIFIN CORPORATION EXPRESSLY DISCLAIM ALL EXPRESSED OR IMPLIED WARRANTIES AND ASSUME NO RESPONSIBILITIES FOR THE ACCURACY OR COMPLETENESS OF THE DATA CONTAINED HEREIN. THE DATA IN THIS SDS DOES NOT APPLY TO USE WITH ANY OTHER PRODUCT OR IN ANY OTHER PROCESS.

THIS SAFETY DATA SHEET MAY NOT BE CHANGED, OR ALTERED IN ANY WAY WITHOUT THE EXPRESSED KNOWLEDGE AND PERMISSION OF ICC THE COMPLIANCE CENTER INC.

AND PARKER HANNIFIN CORPORATION.