



CleanBoost Anti-Microbe™

SECTION 1: PREPARATION INFORMATION

MANUFACTURER/SUPPLIER:

Combustion Technologies USA LLC
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Regulatory Information Group

Date of Last Revision:
Supersedes MSDS Dated:

Jan 17, 2012
Apr 19, 2010

SECTION 2: PRODUCT INFORMATION

Product name: **CleanBoost Anti-Microbe™**
Product Code: CT-CBAM
CAS Number: Mixture

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS No.</u>	<u>% w/w</u>
DIETHYLENE GLYCOL MONOMETHYL ETHER	111-77-3	NOT AVAILABLE
2-(THIOCYANOMETHYLTHIO)BENZOTHAZOLE	21564-17-0	NOT AVAILABLE
METHYLENE BIS(THIOCYANATE)	6317-18-6	NOT AVAILABLE

WHILE SOME SUBSTANCES ARE CLAIMED AS TRADE SECRET. ALL KNOWN HAZARDS ARE CLEARLY COMMUNICATED WITHIN THIS DOCUMENT.

SECTION 4: HAZARD IDENTIFICATION

TOXIC IF SWALLOWED. COMBUSTIBLE. HIGHLY TOXIC BY INHALATION OF MIST. CORROSIVE TO EYES AND SKIN. SENSITIZER.

SECTION 5: FIRST AID MEASURES

IN CASE OF CONTACT WITH EYES: IMMEDIATELY FLUSH WITH COPIOUS AMOUNTS OF WATER OR NORMAL SALINE FOR AT LEAST 15 MINUTES. SEPARATE EYELIDS WITH FINGERS TO INSURE ADEQUATE FLUSHING. TAKE EXPOSED INDIVIDUAL TO HEALTH CARE PROFESSIONAL, PREFERABLY AN OPHTHALMOLOGIST, FOR FURTHER EXAMINATION.

IN CASE OF CONTACT WITH SKIN: IMMEDIATELY WASH WITH SOAP AND COPIOUS AMOUNTS OF WATER. REMOVE CONTAMINATED CLOTHING PROMPTLY AND WASH BEFORE REUSE. IF IRRITATION PERSISTS CONSULT A HEALTH CARE PROFESSIONAL.

IF INHALED: REMOVE TO FRESH AIR. IF NOT BREATHING OR IS CYANOTIC GIVE ARTIFICIAL RESPIRATION, PREFERABLY BY MOUTH-TO-MOUTH OR CONSULT A HEALTH CARE PROFESSIONAL IMMEDIATELY. IF BREATHING IS DIFFICULT, GIVE OXYGEN.



IF INGESTED: **DO NOT INDUCE VOMITING.** ALLOW VICTIM TO RINSE HIS/HER MOUTH AND THEN TO SLOWLY DRINK ONE (1) OR TWO (2) GLASSES OF WATER OR MILK. AVOID GIVING ALCOHOL OR ALCOHOL RELATED PRODUCTS. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON OR A PERSON WHO IS SEMI-COMATOSE, COMATOSE, OR CONVULSING. CALL A PHYSICIAN AND TAKE INDIVIDUAL TO THE NEAREST MEDICAL FACILITY.

SECTION 6: FIRE FIGHTING MEASURES & EXPLOSION DATA

EXTINGUISHING MEDIA: WATER FOG, CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS (SCBA) AND FULL PROTECTIVE CLOTHING TO PREVENT CONTACT WITH VAPOR AND/OR TOXIC FUMES.

SECTION 7: ACCIDENTAL SPILL OR LEAK PROCEDURES

BEFORE RESPONDING TO A SPILL OR LEAK OF THIS PRODUCT, REVIEW EACH SECTION OF THE MSDS. FOLLOW THE RECOMMENDATIONS GIVEN IN THE HANDLING PRECAUTIONS SECTIONS. CHECK THE FIRE AND EXPLOSION DATA SECTION TO DETERMINE IF THE USE OF NON-SPARKING TOOLS IS MERITED. INSURE THAT SPILLED OR LEAKED PRODUCT DOES NOT COME INTO CONTACT WITH MATERIALS LISTED AS INCOMPATIBLE. IF IRRITATING FUMES ARE PRESENT, CONSIDER EVACUATION OF ENCLOSED AREAS.

INITIALLY MINIMIZE AREA AFFECTED BY THE SPILL OR LEAK. BLOCK ANY POTENTIAL ROUTES TO WATER SYSTEMS (E.G., SEWERS, STREAMS, LAKES, ETC.). BASED ON THE PRODUCT'S TOXICOLOGICAL AND CHEMICAL PROPERTIES, AND ON THE SIZE AND LOCATION OF THE SPILL OR LEAK, ASSESS THE IMPACT ON CONTAMINATED ENVIRONMENTS (E.G. WATER SYSTEMS, GROUND, AIR EQUIPMENT, ETC.). THERE ARE NO METHODS AVAILABLE TO COMPLETELY ELIMINATE ANY TOXICITY THIS PRODUCT MAY HAVE ON AQUATIC ENVIRONMENTS. MINIMIZE ADVERSE EFFECTS ON THESE ENVIRONMENTS. DETERMINE IF FEDERAL, STATE, AND/OR LOCAL RELEASE NOTIFICATION IS REQUIRED (SEE REGULATORY CLASSIFICATIONS SECTION OF THIS MSDS). RECOVER AS MUCH OF THE PURE PRODUCT AS POSSIBLE INTO APPROPRIATE CONTAINERS. LATER, DETERMINE IF THIS RECOVERED PRODUCT CAN BE USED FOR ITS INTENDED PURPOSE. ADDRESS CLEAN UP OF CONTAMINATED ENVIRONMENTS. SPILL OR LEAK RESIDUALS MAY HAVE TO BE COLLECTED AND DISPOSED OF. CLAY, SOIL, OR COMMERCIALY AVAILABLE ABSORBENTS MAY BE USED TO RECOVER ANY MATERIAL THAT CANNOT READILY BE RECOVERED AS PURE PRODUCT. FLUSHING RESIDUAL MATERIAL TO AN INDUSTRIAL SEWER, IF PRESENT AT THE SITE OF A SPILL OR LEAK INCIDENT, MAY BE ACCEPTABLE IF AUTHORIZED APPROVAL IS OBTAINED. IF PRODUCT AND/OR SPILL/LEAK RESIDUALS ARE FLUSHED TO AN INDUSTRIAL SEWER, INSURE THAT THEY DO NOT COME INTO CONTACT WITH INCOMPATIBLE MATERIALS. CONTACT THE PERSON(S) RESPONSIBLE FOR THE OPERATION OF YOUR FACILITY'S INDUSTRIAL SEWER SYSTEM PRIOR TO INTENTIONALLY FLUSHING OR PUMPING SPILLS OR LEAKS OF THIS PRODUCT TO THE INDUSTRIAL SEWER.

DISPOSAL GUIDELINES:

NOTE: FOLLOW FEDERAL, STATE, AND LOCAL REGULATIONS GOVERNING THE DISPOSAL OF WASTE MATERIALS.

CONTAMINATED MATERIALS: DETERMINE IF WASTE CONTAINING THIS PRODUCT CAN BE HANDLED BY AVAILABLE INDUSTRIAL EFFLUENT SYSTEM OR OTHER ON-SITE WASTE MANAGEMENT UNIT. IF OFF-SITE MANAGEMENT IS REQUIRED, CONTACT A COMPANY EXPERIENCED IN INDUSTRIAL WASTE MANAGEMENT. THIS PRODUCT IS NOT SPECIFICALLY LISTED IN 40 CFR 261 AS A RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) HAZARDOUS WASTE. HOWEVER, SPILL OR LEAK RESIDUALS MAY MEET THE CRITERIA OF A CHARACTERISTIC HAZARDOUS WASTE UNDER THIS ACT. CHECK THE CHARACTERISTICS OF



THE MATERIAL TO BE DISPOSED OF AND/OR THE PHYSICAL AND REACTIVITY DATA GIVEN IN THIS MSDS.

CONTAINER DISPOSAL: EMPTY CONTAINERS, AS DEFINED BY APPROPRIATE SECTIONS OF THE RCRA, ARE NOT RCRA HAZARDOUS WASTES. HOWEVER, INSURE PROPER MANAGEMENT OF ANY RESIDUALS REMAINING IN CONTAINER.

SECTION 8: STORAGE & HANDLING PRECAUTIONS / REACTIVITY INFORMATION

RUBBER GLOVES, SAFETY GLASSES OR GOGGLES AND BODY PROTECTIVE CLOTHING AND SHOES ARE REQUIRED. WHEN SPLASHING CAN OCCUR, A NEOPRENE APRON OR NEOPRENE RAIN SUIT AND A FACE SHIELD ARE ADVISABLE. EYE-WASH FOUNTAINS IN THE WORK PLACE ARE STRONGLY RECOMMENDED. RESPIRATORY PROTECTION IS REQUIRED FOR WORK AREAS WHERE MISTING MAY OCCUR. A COMPREHENSIVE RESPIRATORY PROTECTION PROGRAM IS NEEDED WHEN RESPIRATORS MUST BE USED. THE HANDLING PRECAUTIONS FOR THIS PRODUCT ARE BASED ON THE CHARACTERISTICS OF THE NEAT PRODUCT UNLESS OTHERWISE SPECIFIED.

STABILITY: DO NOT HEAT AND/OR STORE ABOVE 50° C AS DECOMPOSITION MAY INCREASE PACKAGING PRESSURE.

INCOMPATIBILITY: STRONG ACIDS, STRONG OXIDIZERS, STRONG BASES. EXTENDED HEATING AT HIGH TEMPERATURES.

HAZARDOUS DECOMPOSITION PRODUCTS: CYANIDE SALTS ARE FORMED WHEN PRODUCT CONTACTS STRONG ALKALI. THERMAL DECOMPOSITION OF PRODUCT CAN PRODUCE TOXIC VAPORS OF HYDROGEN CYANIDE AND SULFUR DIOXIDE. CONTACT WITH FIRE MAY GENERATE OXIDES OF SULFUR, NITROGEN AND CARBON.

SECTION 9: PRIMARY ROUTES OF EXPOSURE

1. EFFECTS FROM ACUTE EXPOSURE:

EYE EXPOSURE: VERY HAZARDOUS IN CASE OF EYE CONTACT (IRRITANT, CORROSIVE). INFLAMMATION OF THE EYE IS CHARACTERIZED BY REDNESS, WATERING AND ITCHING.

SKIN EXPOSURE: VERY HAZARDOUS IN CASE OF SKIN CONTACT (SENSITIZER). HAZARDOUS IN CASE OF SKIN CONTACT (CORROSIVE, IRRITANT). SKIN CONTACT MAY PRODUCE BURNS. SKIN INFLAMMATION IS CHARACTERIZED BY ITCHING, SCALING, REDDENING OR, OCCASIONALLY, BLISTERING.

INHALATION: MAY BE HARMFUL IF INHALED. DO NOT BREATHE SPRAY MISTS OF THE UNDILUTED PRODUCT. EFFECTS WILL DEPEND UPON SOLUTION STRENGTH AND LENGTH OF TIME OF EXPOSURE.

INGESTION: INGESTION IS NOT EXPECTED TO BE A PRIMARY ROUTE OF EXPOSURE.

2. EFFECTS FROM CHRONIC EXPOSURE:

CHRONIC FEEDING STUDIES ON THE ACTIVE INGREDIENT DID NOT REVEAL ANY SIGNIFICANT ADVERSE EFFECTS.

SECTION 10: PHYSICAL & CHEMICAL DATA

APPEARANCE:	CLEAR AMBER
ODOR:	SLIGHT
BOILING POINT:	> 212°F (100°C)



VAPOR PRESSURE:	NOT AVAILABLE
DENSITY:	1.03 G/CM ³
MELTING/FREEZING POINT:	<-30°C (-22°F)
pH NEAT:	NOT AVAILABLE
pH 100 PPM IN WATER:	6-7
O/W PARTITION COEFFICIENT:	NOT AVAILABLE
OXIDIZING/REDUCING PROPERTIES:	NOT AVAILABLE
VISCOSITY:	NOT AVAILABLE
ADDITIONAL pH INFORMATION:	NOT AVAILABLE
FLASH POINT:	CLOSED CUP: 158°F (70°C). (TAGLIABUE)
SOLUBILITY IN WATER:	DISPERSIBLE IN COLD AND HOT WATER

NOTE: THE PHYSICAL DATA PRESENTED ABOVE ARE TYPICAL VALUES AND SHOULD NOT BE CONSTRUED AS SPECIFICATIONS.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

THE FOLLOWING DATA WAS DEVELOPED FROM TESTS CONDUCTED WITH A FORMULATION CONTAINING FOUR TIMES THE PERCENTAGE OF THE ACTIVE INGREDIENTS THAT ARE FOUND IN THIS PRODUCT, TCMTB AND MTC.

ORAL: LD50/RAT = 250MG/KG

DERMAL: LD50/RABBIT = 1670 MG/KG

DERMAL SENSITIZATION: GUINEA PIG: STRONG SENSITIZER

SKIN IRRITATION: RABBITS: SEVERELY IRRITATING, CORROSIVE

EYE IRRITATION: RABBITS: CORROSIVE

IRRITANT/SENSITIZATION EFFECTS:

EYE EXPOSURE: VERY HAZARDOUS IN CASE OF EYE CONTACT (IRRITANT, CORROSIVE). INFLAMMATION OF THE EYE IS CHARACTERIZED BY REDNESS, WATERING AND ITCHING.

SKIN EXPOSURE: VERY HAZARDOUS IN CASE OF SKIN CONTACT (SENSITIZER). HAZARDOUS IN CASE OF SKIN CONTACT (CORROSIVE, IRRITANT). SKIN CONTACT MAY PRODUCE BURNS. SKIN INFLAMMATION IS CHARACTERIZED BY ITCHING, SCALING, REDDENING OR, OCCASIONALLY, BLISTERING.

INHALATION: MAY BE HARMFUL IF INHALED. DO NOT BREATHE SPRAY MISTS OF THE UNDILUTED PRODUCT. EFFECTS WILL DEPEND UPON SOLUTION STRENGTH AND LENGTH OF TIME OF EXPOSURE.

CARCINOGENIC POTENTIAL:

MUTAGENICITY TESTING AND 52-WEEK RAT STUDIES ON THE ACTIVE INGREDIENTS SHOW NO EVIDENCE OF CARCINOGENIC EFFECTS.

TARGE ORGANS EFFECTS:

MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: UPPER RESPIRATORY TRACT, SKIN, EYES.

OTHER HEALTH EFFECTS:

INHALATION TOXICITY WAS CONDUCTED WITH THE TECHNICAL GRADE MATERIAL UNDER MISTING CONDITIONS WITH A 4-HOUR EXPOSURE UNDER CONTROLLED MISTING CONDITIONS.



NORMAL USE OF THIS PRODUCT UNDER NON-MISTING CONDITIONS SHOULD NOT PRESENT AN OCCUPATIONAL HAZARD.

SECTION 12: ECOLOGICAL INFORMATION

LC50 = 0.011 MG/L 48 HOURS DAPHNIA MAGNA

LC50 = 0.23 MG/L 96 HOURS RAINBOW TROUT

THE FOLLOWING DATA WAS DEVELOPED FROM TESTS CONDUCTED WITH A FORMULATION CONTAINING FOUR TIMES THE PERCENTAGE OF THE ACTIVE INGREDIENTS THAT ARE FOUND IN THIS PRODUCT, TCMTB AND MTC.

SECTION 13: SATISFACTORY MATERIALS OF CONSTRUCTION

304 STAINLESS STEEL

316 STAINLESS STEEL

ALUMINUM 5052 H34

POLYETHYLENE – CROSSLINK

POLYETHYLENE – HIGH DENSITY

POLYETHYLENE – LOW DENSITY

POLYPROPYLENE

REHAU TUBING

NEOPRENE

SILICONE RUBBER

6/6 NYLON

TEFLON

PHARMED TUBING

FRP

NORPRENE

DOW SILLASTIC TUBE

NOTE: WITH RESPECT TO ALL OTHER MATERIALS NOT LISTED ABOVE, USER SHOULD BE AWARE THAT USE OF SUCH MATERIALS WITH THIS PRODUCT MAY BE HAZARDOUS AND RESULT IN DAMAGES TO SUCH MATERIALS AND OTHER PROPERTY AND PERSONAL INJURIES. NO DATA CONCERNING SUCH MATERIALS NOT LISTED ABOVE SHOULD BE IMPLIED BY THE USER.

SECTION 14: TRANSPORTATION INFORMATION

DOT SHIPPING INFORMATION:

UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., (THIOCYANOMETHYLTHIO) BENZOTHAZOLE, METHYLENE BIS(THIOCYANATE)), CLASS 8, (6.1), P.G. III, (ERG GUIDE 154).

IMO/IMDG SHIPPING INFORMATION:

UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., (THIOCYANOMETHYLTHIO) BENZOTHAZOLE, METHYLENE BIS(THIOCYANATE)), CLASS 8, (6.1), P.G. III, MARINE POLLUTANT (EMS NO. F-A,S-B, ERGGUIDE 154, HAZMAT CODE 4936015).



IATA SHIPPING INFORMATION:

UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., (THIOCYANOMETHYLTHIO) BENZOTHAZOLE, METHYLENE BIS(THIOCYANATE)), CLASS 8, (6.1), P.G. III, (ERG GUIDE 154, ERG CODE 8P).

UNLESS OTHERWISE STATED, THE SHIPPING INFORMATION PROVIDED ABOVE APPLIES ONLY TO NON-BULK CONTAINERS OF THIS PRODUCT. PROPER SHIPPING NAME AND GENERAL SHIPPING INFORMATION MAY VARY DEPENDING ON PACKAGING AND MODE OF SHIPMENT. ALL PRODUCTS SHIPPED FROM COMBUSTION TECHNOLOGIES HAVE BEEN PROPERLY PACKAGED AND LABELED ACCORDING TO APPROPRIATE HAZARDOUS MATERIALS SHIPPING REGULATIONS. IF ANY ALTERATION OF PACKAGING, PRODUCT, OR MODE OF TRANSPORTATION IS FURTHER INTENDED, DIFFERENT SHIPPING INFORMATION, INCLUDING BUT NOT LIMITED TO PROPER SHIPPING NAME, RQ DESIGNATION, AND LABELING MAY APPLY. FOR FURTHER INFORMATION PERTAINING TO THE SHIPPING REQUIREMENTS FOR THIS PRODUCT, CONTACT COMBUSTION TECHNOLOGIES USA, LLC.

SECTION 15: REGULATORY INFORMATION

THE FOLLOWING REGULATIONS ARE KNOWN TO APPLY TO THE USE AND DISPOSAL OF THIS PRODUCT. ADDITIONAL FEDERAL, STATE AND LOCAL REGULATIONS MAY ALSO BE APPLICABLE.

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

SARA 302 EXTREMELY HAZARDOUS SUBSTANCES LIST – NO COMPONENTS OF THIS PRODUCT ARE LISTED.

SARA 312 HAZARD CATEGORY – FIRE HAZARD, IMMEDIATE (ACUTE) HEALTH HAZARD.

SARA 313 TOXIC CHEMICAL LIST – THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372: DIETHYLENE GLYCOL MONOMETHYL ETHER.

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT):
NO COMPONENTS OF THIS PRODUCT ARE PRESENT ABOVE THE *DE MINIMUS* LEVELS.

RCRA (RESOURCE CONSERVATION AND RECOVERY ACT) LISTED HAZARDOUS WASTE:
NO COMPONENTS OF THIS PRODUCT ARE LISTED.

CWA (CLEAN WATER ACT) LISTED SUBSTANCES:
NO COMPONENTS OF THIS PRODUCT ARE LISTED.

FDA (FOOD AND DRUG ADMINISTRATION):
THIS PRODUCT IS ALLOWED UNDER THE FOLLOWING FDA (21 CFR) SECTIONS: 176.300.

BFR (THE FEDERAL INSTITUTE FOR RISK ASSESSMENT):
NOT AVAILABLE.

TSCA (TOXIC SUBSTANCES CONTROL ACT) APPLICABILITY:
ALL COMPONENTS MAY NOT BE LISTED ON THE TSCA INVENTORY. REGISTERED PESTICIDES ARE EXEMPT FROM THE REQUIREMENTS OF TSCA.

FIFRA (FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT):
THIS PRODUCT IS A REGISTERED PESTICIDE.

HMIS/NPCA RATING:
HEALTH – 3, FLAMMABILITY – 2, REACTIVITY – 1



NFPA RATINGS:

HEALTH – 3, FLAMMABILITY – 2, REACTIVITY – 1

STATE REGULATIONS:

VARIOUS STATE RIGHT TO KNOW ACTS – NON-PROPRIETARY HAZARDOUS CHEMICALS ARE LISTED IN SECTION 2 OF THIS MSDS. SHOULD YOU REQUIRE FURTHER INFORMATION ON SPECIFIC PROPRIETARY OR INERT INGREDIENTS PLEASE CONTACT COMBUSTION TECHNOLOGIES.

SECTION 16: ADDITIONAL INFORMATION

THE INFORMATION ON THIS MATERIAL SAFETY DATA SHEET REFLECTS THE LATEST INFORMATION AND DATA THAT COMBUSTION TECHNOLOGIES HAS ON HAZARDS, PROPERTIES, AND HANDLING OF THIS PRODUCT UNDER THE RECOMMENDED CONDITIONS OF USE. ANY USE OF THIS PRODUCT OR METHOD OF APPLICATION, WHICH IS NOT DESCRIBED IN THIS MSDS IS THE RESPONSIBILITY OF THE USER. THIS MSDS WAS PREPARED TO COMPLY WITH THE OSHA HAZARD COMMUNICATION REGULATIONS. WHILE SOME COMPONENTS ARE CLAIMED TRADE SECRET UNDER OSHA HAZARD COMMUNICATION REGULATIONS, ALL KNOWN OSHA HAZARDS ASSOCIATED WITH THE TRADE SECRET COMPONENT(S) IF CONTAINED IN THIS PRODUCT, ARE FULLY DISCLOSED.

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