



TERRAFUSE INC.
1325 HASTINGS CRES. SE
CALGARY, AB., T2G 4C8
CANADA
403.243.3000

PRODUCT: TF ICE RETARDER

CODE: 4051

SECTION 01: IDENTIFICATION

SUPPLIER IDENTIFIER..... Terrafuse Inc.
1325 Hastings Cres. SE.
Calgary AB T2G 4C8
CA
403.243.3000

PRODUCT IDENTIFIER..... TF ICE RETARDER

PRODUCT CODE(S)..... 4051

MANUFACTURER..... TERRAFUSE INC 1325 HASTINGS CRES SE CALGARY, AB T2G 4C8
TEL:(403)243-3000 FAX:(403)243-3050.

INTENDED PRODUCT USE..... Mortar retarder.

PRODUCT NAME..... TF ICE Retarder.

EMERGENCY NUMBER..... CANUTEC (reverse charges): (613) 996-6666.

OTHER MEANS OF IDENTIFICATION..... Disodium Tetraborate Decahydrate, Borax.

SECTION 02: HAZARD IDENTIFICATION



SIGNAL WORD..... DANGER.

HAZARD CLASSIFICATION..... Carcinogenicity — Category 1B. Reproductive Toxicity — Category 1B.

HAZARD STATEMENT..... H350 May cause cancer. H360 May damage fertility or the unborn child.

PRECAUTIONARY STATEMENT

Prevention..... P201 Obtain special instructions before use. P280 Wear protective gloves/protective clothing/eye protection/face protection. P202 Do not handle until all safety precautions have been read and understood.

Response..... P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage..... P405 Store locked up.

Disposal..... P501 Dispose of contents/container to an approved waste disposal facility.

OTHER HAZARDS..... None. No information available.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
Disodium Tetraborate Decahydrate	1303-96-4	90-100

SECTION 04: FIRST-AID MEASURES

ROUTES OF EXPOSURE

INHALATION..... If inhaled, remove victim to fresh air. If there is difficulty breathing, seek medical attention. If not breathing, give artificial respiration.

INGESTION..... If swallowed, DO NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Obtain immediate medical attention.

SKIN CONTACT..... Remove any contaminated clothing and shoes. Immediately flush skin with plenty of water. If irritation persists, seek medical attention. Decontaminate clothing before reuse.

EYE CONTACT..... Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelid open. In case of persistent discomfort, consult with an ophthalmologist.

ADDITIONAL INFORMATION..... In the event of an incident involving this product ensure that medical authorities are provided with a copy of this SDS. In all cases, if irritation persists seek medical attention. Treat any ill effects symptomatically and supportively. Note to physicians: Observation only is required for adult ingestion in the range of 4-8 grams of product. For ingestion of larger amounts, maintain adequate kidney function and force liquids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

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SECTION 05: FIRE-FIGHTING MEASURES

FLAMMABILITY..... Not Flammable.
 SUITABLE EXTINGUISHING MEDIA..... Carbon dioxide (CO₂). Dry powder. Foam. Water spray. As for surrounding fire.
 UNSUITABLE EXTINGUISHING MEDIA..... High volume water jet.
 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS As in any fire, wear self-contained breathing apparatus and full protective gear. .
 HAZARDOUS COMBUSTION PRODUCTS. Not applicable.
 FIRE/EXPLOSION HAZARDS..... Not applicable.
 FIRE FIGHTING INSTRUCTIONS..... As for surrounding fire.

SECTION 06: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE Ensure adequate ventilation. Avoid eye contact. Avoid skin contact. Use proper protective equipment. Isolate area; keep all unprotected people away from the spill area.
 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP Pick-up spills without creating dust. Place material into a dry container and cover. Hold in sealed container for disposal. Use personal protective equipment as required (See Section 8 - Exposure Controls and Personal Protection).
 ENVIRONMENTAL PRECAUTIONS..... Prevent runoff into drains, sewers and other waterways. Do not flush into surface water of sanitary sewer system. .

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING..... Avoid inhalation of dust. Clean area frequently to avoid dust build-up. Wear applicable personal protective equipment as indicated in Section 8 - Exposure Controls and Personal Protection.
 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES Keep containers tightly closed. Protect against moisture.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
Disodium Tetraborate Decahydrate	1mg/m3	3 ppm	Not Available	Not Available		Not Available

APPROPRIATE ENGINEERING CONTROLS Engineering controls may include process enclosure and/or local exhaust ventilation to maintain dust concentrations below allowable exposure limits. Local exhaust ventilation with or without process enclosure is important where large quantities are handled, as in bagging operations. .

INDIVIDUAL PROTECTION MEASURES
 RESPIRATORY/TYPE..... If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator.
 CLOTHING/TYPE..... Wear coveralls.
 EYE/TYPE..... Wear safety goggles in high dust concentrations, unless full face-piece respiratory protection is worn.
 GLOVES/ TYPE..... No special protection needed.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE (PHYSICAL STATE AND COLOUR) Solid.
 ODOUR..... Odourless.
 ODOUR THRESHOLD..... Not applicable.
 pH..... 9.2 (1% solution @20°C).
 MELTING POINT AND FREEZING POINT (°C) .. 62°C.
 INITIAL BOILING POINT AND BOILING RANGE (°C) No data available.
 FLASH POINT (°C), METHOD..... Not Applicable. FLASH POINT (°C), METHOD.
 EVAPORATION RATE..... Not Applicable.
 FLAMMABILITY (SOLIDS AND GASES)..... Not applicable.
 UPPER FLAMMABLE LIMIT (% VOL)..... Not Applicable .
 LOWER FLAMMABLE LIMIT (% VOL)..... Not Applicable.
 VAPOUR PRESSURE..... Not Applicable.
 VAPOUR DENSITY (AIR=1)..... Not Applicable.
 RELATIVE DENSITY..... 1.71 g/cc.
 SOLUBILITY..... Water: 4.715 @ 20°C; 65.64% @ 100°C.
 AUTO IGNITION TEMPERATURE (°C)..... Not Applicable.
 VISCOSITY..... Not Applicable.

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SECTION 10: STABILITY AND REACTIVITY

REACTIVITY
 CHEMICAL STABILITY..... Stable under normal conditions.
 CONDITIONS TO AVOID..... When heated it loses water, eventually forming anhydrous borax.
 SENSITIVITY TO STATIC DISCHARGE..... Not applicable.
 SENSITIVITY TO SHOCK OR VIBRATION..... Not applicable.
 INCOMPATIBLE MATERIALS..... Strong reducing agents. Reaction with strong reducing agents such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.
 HAZARDOUS DECOMPOSITION PRODUCTS None known.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Disodium Tetraborate Decahydrate	Not available	3493 mg/kg (Oral - Rat) >10000 mg/kg (Dermal - Rabbit)
LD50/LC50.....	No Data Available.	
IRRITANCY.....	Not irritating to skin.	
SENSITIZER.....	No Data Available.	
CARCINOGENICITY.....	1303-96-4 IARC (International Agency for Research on Cancer) Group 2A - Probably Carcinogenic to Humans.	
TERATOGENICITY.....	Not Data Available.	
REPRODUCTIVE EFFECTS.....	Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Boric acid studies on rat, mouse and rabbit at high doses, demonstrate developmental effects on the fetus, including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed. Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction. The substance may be toxic to testes. .	
MUTAGENICITY.....	No Data Available.	

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY..... 2.6-21.8mg/L EC50 Pseudokirchneriella subcapitata 96h static 158mg/L EC50 Desmodesmus subspicatus 96h 340mg/L LC50 (Limanda limanda) 96h 1085-1402mg/L (48h, Daphnia magna).

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS..... DISPOSAL METHODS. This product does not meet the criteria of a hazardous waste. Dispose in accordance with all applicable federal, provincial/state, and local environmental regulations.
 LOCAL DISPOSAL REGULATIONS..... Dispose in accordance with all applicable regulations.

SECTION 14: TRANSPORT INFORMATION

TDG CLASSIFICATION..... Not Regulated.
 UN NUMBER..... No UN number assigned.
 SHIPPING NAME
 CLASS
 PACKAGING GROUP
 SPECIAL PRECAUTIONS..... No special requirements.

SECTION 15: REGULATORY INFORMATION

Canada- Domestic Substances List (DSL).... 1303-96-4.
 U.S. TSCA INVENTORY STATUS..... Toxic Substances Control Act (TSCA) Inventory List 8(b): 1303-96-4.
 CEPA STATUS..... This product is not listed as a toxic substance under the Canadian Environmental Protection Act (CEPA 1999).
 WHMIS1988 CLASSIFICATION..... This product is listed on the WHMIS Ingredient Disclosure List. This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this SDS contains all of the information required by the CPR.
 CERCLA REPORTABLE QUANTITY (RQ)... Not listed as a hazardous substance.
 SARA TITLE III:
 SARA 302..... Product is not listed as an Extremely Hazardous Substance (EHS).
 SARA 311/312..... Product is not listed.
 SARA 313..... Product is not subject to Form R reporting.

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SECTION 16: OTHER INFORMATION

DISCLAIMER:..... This information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy, correctness, or suitability of this information for application to the purchasers intended use. The conditions or methods of handling, storage, use and disposal of the product are beyond our control. We, therefor, do not assume the responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

PREPARED BY: Terrafuse Inc.
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