MATERIAL SAFETY DATA SHEET (MSDS)

NAME OF PRODUCT: INSTANTBOND
DATE OF ISSUE: Aug 07 2009

1 – Substance Identification

Material/Trade Name: Instantbond
Material Type Cyanoacrylate adhesive
Company **Granitec Inc.**
Address 535 Millway Avenue
Telephone 905-738-8002
Fax 905-738-8532

2 – Composition

Substance	% Weight	CAS No	EC No
Ethyl-2-cyanoacrylate	Xi: R36/37/38 86-99	7085-85-0	230-391-5
Polymethyl methacrylate	Xi: R36/37/38 1-14	901-12-7	n/e (polymer)

3 – Hazard Identification

Danger Cyanoacrylate Bonds skin and eyes in seconds. Keep out of the reach of children. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
Avoid contact with sink and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves.

4 – First Aid Measures

Inhalation: remove to fresh air and rest. If recovery is not rapid call for prompt medical attention

Eyes: Cyanoacrylates bond eyelids in seconds. Irrigate thoroughly with water for at least 15 minutes. Take care not to wash chemical from one eye to another. If the eyelid is bonded Closed, do not force open. Cover with wet pad soaked in warm water. Get prompt medical attention, incase solid particles of cured cyanoPacrylate trapped behind the eye causes any abrasive damage. Keep eye covered with wet pad until debonding is complete, usually 1-3 days. (Cyano-acrylate will bond to eye protein, causing a lachrymatory effect that aids debonding).

Skin: Do not pull bonded skin apart. Remove contaminated clothing. Wash with soap/cleanser and rinse with plenty of water. Any bonded skin should be gently peeled apart with the aid of a blunt object, preferably after soaking in warm, soapy water. If irritation persists, obtain medical attention. In the case of large spills on skin, superficial burns may occur –treat accordingly.

Ingestion: Ensure that breathing passages are not obstructed. Give plenty of water to drink. Do not induce vomiting. The product will polymerize immediately in the mouth, making it almost impossible to swallow. Saliva will separate the solidified product from the mouth over a period of hours. Seek medical attention.

5 – Fire-fighting Measures

Suitable Extinguishers: Alcohol resistant foam. Dry powder. Carbon dioxide. Water spray/fog.

Unsuitable Extinguishers: Direct water jets

Hazardous Decomposition: Toxic fumes are produced in fire (CO, CO2, nitrogen oxides).

Special Procedures: Do not breathe decomposition products and fumes. Use approved self-contained breathing apparatus. Wear fire retardant clothing. Wear eye protection. Use water spray to cool containers. Prevent run off from fire control from entering waterways. Large fires should only be dealt with by trained personnel.

6- Accidental Release Measures

Exposure Controls: Refer to Section 8- Personal Protection. Ventilate area. Evacuate personnel. Use approved self-contained breathing apparatus. Do not allow spill to enter drains and watercourses.

Personal Protection: Wear suitable respiratory protection in confined spaces. Wear polythene Gloves. Use eye protection such as goggles to BS EN 166 Chemical Grade

Disposal Considerations: Absorb in inert material such as sand or absorbent granules (do not Use cloths) or polymerize slowly with water and then scrape up. Dispose in accordance with local regulations.

7 – Handling and Storage

Handling: Avoid skin and eye contact. Avoid inhalation of vapor. Ensure adequate ventilation – local exhaust ventilation may be required. Wear eye protection and gloves.

Storage: Store in tightly closed labeled containers. Store in a cool, dry, well-ventilated area.

8 – Exposure Controls

Occupational Exposure limit: OES for ethyl cyanoacrylate is 0.3 ppm = 1.5 mg/m3. Wear polythene gloves. Wear suitable overalls or apron if usage is large and change if contaminated. Wear suitable eye protection such as BSEN 166. Use in well-ventilated areas-Use mechanical ventilation if necessary to maintain vapor level below TLV. If excessive inhalation in a poorly ventilated area is likely then use a respirator with filter type. After contact with skin wash immediately.

9- Physical and Chemical Properties

Appearance	Clear/almost colourless liquid (3 black RT grades, 2 white RT)
Odor	Sharp, pungent
pH	n/e
Boiling point/range	>150 degrees
Melting point/range	n/e
Flash point	<85 degrees (C.O.C)
Flammability	NON-FLAMMABLE
Auto flammability	n/e
Explosive properties	None
Oxidizing properties	None
Vapor pressure	~0.2 mm
Relative density	1.04-1.10 depending on grade
Solubility	Polymerizes in water (note: soluble in acetone)
Vapor density	n/e
Viscosity	Various-from 3cP (water-thin) to gel
Evaporation rate (Bu Ac=1)	n/e

10 – Stability and Reactivity

Stable at normal temperatures. Will polymerize rapidly on contact with water. Materials to avoid:s strong oxidizing agents, water, alkalis, amines, alcohols.
Conditions to avoid: high temperature, moisture & direct sunlight. No hazardous decomposition products when stored and handled correctly.

11- Toxicological Information

Oral: LD50 oral-rat<5000 mg/kg. Considered to have relatively low toxicity. Product is almost impossible to swallow, due to polymerization in mouth.

Skin: LD50 skin-rabbit <2000mg/kg

Inhalation: see section 8 for OES

Acute effects: eye watering, irritation of nasal cavities and respiratory tract and irritation and redness at the site of skin contact. Repeated skin contact may possibly cause dermatitis in sensitive individuals
Prolonged and repeated over-exposure to high concentrations of vapours may lead to sensitizing effects in sensitive individuals

12- Ecological Information

Ecotoxicity: No specific data available, but expected to be very low.
Persistance: No specific data available
Bio-accumulative potential: No specific data available
Mobility: No specific data available, but expected to be very low.

13- Disposal Considerations

Polymerize adhesive by adding slowly to water (~10:1, adhesive : water)
Add water to contaminated packaging and then dispose of.
Do no discharge into drains or water courses.
Dispose of in accordance with local regulations

14-Transport Information

Not classified as hazardous for transport. Not restricted unto IATA regulations

15-Regulatory Information

a) Risk & Safety Danger – cyanoacrylate. Bonds skin and eyes in seconds. Keep out of the reach of children. R36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN
S24/25 Avoid contact with skin and eyes
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S37 Wear suitable gloves

b) Other Regulations

Health & Safety at work etc. Act 1974
Control of Substances hazardous to health Regulations 1994
Environmental Protection Act 1990
Special Waste Regulations 1996

This safety Data sheet is compiled with reference to the chemicals (Hazard information and packaging for supply)regulations 1994 (CHIP2), which implement the Council Directives 67/548/EEC
(The Dangerous Substances directive) and 88/379/EEC (the Dangerous Preparations directive), and subsequent amending regulations, up to and including the chemicals (Hazard Information and Packaging for supply) regulations 2000 (CHIP 2000), which implements the 26th ATP of 67/548/EEC.

16 – Other information

Not applicable

SAFETY DATA SHEET ACTIVATOR

DATE PREPARED 01.01.2009

1. IDENTIFICATION OF THE PREPARATION AND THE COMPANY:

NAME OF COMPANY: GRANITEC INC.
NAME OF PRODUCT: INSTANTBOND
DATE OF ISSUE: Aug 07 2009

1 – Substance Identification

Material/Trade Name: Instantbond Aerosol Activator

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME	CAS No	EINECS No	CONTENTSin %	HEALTH	RISK
PROPANE	74-98-6	200-827-9	10-35%	F+	R12
BUTANE/ISOBUTANE	106-97-8	203-448-7	20-40%	F+	R12
ALIPHATIC HYDROCARBON	142-82-5	205-563-8	30~60%	F Xn	RlI-38-50/53-65-67
AROMATIC AMINE	99-97-8	202-805-4	0.5%		

3. HAZARDS IDENTIFICATION:

- Pressurized Container
- Highly Flammable
- Harmful by inhalation
- Irritating to the skin
- May cause lung damage if swallowed
- Solvent abuse can kill instantly

4. FIRST AID MEASURES:

GENERAL:
Move the exposed person to fresh air at once
EYES:
Promptly wash eyes with lots of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get medical attention.
SKIN:
Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above

INHALATION:
Move the exposed person to fresh air at once: Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention

INGESTION:

Rinse mouth thoroughly. Do not induce vomiting. Get medical attention immediately.

5. FIRE FIGHTING MEASURES:

EXTINGUISHING MEDIA

Fine water spray, carbon dioxide (C02), foam

SPECIAL FIRE FIGHTING PROCEDURES

Water may be ineffective but use to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Water spray may be used to flush spills away and dilute spills to non-flammable mixtures. Use water spray to reduce vapors. Warn fire fighters that aerosols are involved.

UNUSUAL HAZARDS

Makes explosive mixtures with air. Extremely flammable May explode in a fire. May travel considerable distance to source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES:

PERSONAL PROTECTION
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking.
ENVIRONMENTAL PRECAUTIONS
Ventilate.
SPILL CLEANUP METHODS
Absorb in vermiculite, dry sand or earth and place into containers. Collect and reclaim or dispose in sealed containers in licensed waste. Provide ventilation and confine spill.

7. HANDLING AND STORAGE:

HANDLING
Keep away from heat, sparks and open flame. Read and follow manufacturer's recommendations. Do not spray near a naked flame or any incandescent material.
STORAGE
Flammable/combustible Store at moderate temperatures in a dry well ventilated area. Keep away from heat, sparks and flame Protect from sunlight. Do not expose to temperatures exceeding 500C

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION:

INGREDIENT	CAS No.	STEL	LTEL (8hrs)
PROPANE	74-98-1	Asphyxiant	Asphyxiant
BUTANE/ISOBUTANE	106-97-8	600 ppm	750 ppm
AROMATIC AMINE	99-97-8	Non-assigned	Non assigned
ALIPHATIC HYDROCARBON	142-82-5	400 ppm	500 ppm

VENTILATION

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation. If, following workplace assessment, OEL is likely to be exceeded due to use where natural ventilation is insufficient suitable respirator with organic vapor cartridge must be worn.

PERSONAL
PROTECTION

Wear splash-proof eye goggles to prevent any possibility of eye contact. Do not smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	Aerosol container containing a mixture of active ingredients, solvents and propellants
Odour	Solvent

10. STABILITY AND REACTIVITY:

CONDITIONS TO AVOID Heat flames and other sources of ignition

MATERIALS TO AVOID

HAZARDOUS DECOMPOSITION PRODUCTS

11. TOXICOLOGICAL INFORMATION:

HEALTH WARNINGS	Narcotic effect. Drowsiness. Concentrating and inhaling the gas can lead to abnormal heart rhythms and possibly death.
ROUTE OF ENTRY	Inhalation
TARGET ORGANS	Central nervous system, repertory system, lungs
MEDICAL SYMPTOMS	Narcotic effect
ACUTE AND CHRONIC HEALTH HAZARDS	Repeated exposure may cause upper repertory irritation, defatting, drying and cracking of the skin.

12. ECOLOGICAL INFORMATION:

ECOTOXICITY	Aliphatic Hydrocarbon is very toxic to aquatic organisms.
MOBILITY	Very mobile
PERSISTANCE	Aliphatic Hydrocarbon may cause long term damage to the environment
BIOACCUMULATIVE POTENTIAL	Low risk due to the small quantity and volatility of the components.

13. DISPOSAL CONSIDERATIONS:

Hazardous waste; Ensure that the container is empty and dispose of in accordance with local authority regulations; Do not discharge into surface water.

14. TRANSPORT INFORMATION:

1. Classification in compliance with UN recommendations

UN Number	1950
CLASS	2
PROPER SHIPPING NAME	Aerosols

2. ADR (Transport by Road)

CLASS	2
PACKING DANGER LABEL PACKAGES	1950 Aerosols, 2, Flammable gas

3. RID (Transport by Rail)
CLASS
PACKING DANGER LABEL PACKAGES

4. ADNR (Transport by Inland Waterways)
CLASS
PACKING
DANGER LABEL PACKAGES

5. IMDG (Maritime Transport)
CLASS 2
PACKING
MFAG
EMS
MARINE POLLUTANT

6. ICAO (Air Transport)
CLASS
ACKING

15. REGULATORY INFORMATION:

LABEL FOR SUPPLY
According to EC-Directives 67/548/EEC on 1999/45/EC

Extremely Flammable

Harmful

RISK PHRASES

R10 Flammable
R20 Harmful by inhalation
R36/37/38 Irritating to the eyes, respiratory system and skin.
R42/43 May cause sensitization by inhalation and skin contact.

SAFETY PHRASES

S (02) Keep out of reach of children
S23 Do not breath vapour
S36/37 Wear suitable protective clothing and gloves
S45 In case of accident or if you feel unwell seek medical advice.
S63 In case of accident by inhalation remove casualty to fresh air and keep at rest.
Show label where possible