MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Item No. : **656B**

Item Name : Black Adhesive

Company : Ultra Energy Adhesive Trading Co. Ltd.

Address : Room 1009, International Plaza, 20 Sheung Yuet Road, Kowloon Bay,

Kowloon, Hong Kong.

Tel : 852 - 2751 8880 Fax : 852 - 2795 1625 Email : info@uea.com.hk

2. Ingredients

<u>Ingredients</u>	% by Wt	CAS NO.
Styrene-Butadiene Polymer	20	9003 - 55 - 8
Hydrocarbon Resin	20	68478 - 07 - 9
Petroleum Spirit	60	8032 - 32 - 4

. Hazards Identification

A. Emergency Overview

Odor, Color, Grade

General Physical Form

Immediate Health,

Physical, and environmental Hazards

: Black, Mild Odor

: Liquid

Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition

source and flash back.

Contains a chemical or chemicals which can cause cancer. May cause target organ effects. Contains a Chemical or chemicals which can cause birth defects or other reproductive harm.

B. Potential Health Effects

Eye Contact:

Mild Eye Irritation : Signs / symptoms may include redness, pain, and tearing.

Skin Contact:

Moderate Skin Irritation : Signs / symptoms may include localized redness,

swelling, itching, and dryness.

May be absorbed through skin and cause target organ effects.

Inhalation:

Respiratory Tract Irritation : Signs / symptoms may include cough, sneezing, nasal

discharge, headache, hoarseness, and nose and throat

pain.

Prolonged or repeated exposure may cause:

Respiratory Effects: Signs / symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

May be absorbed following inhalation and cause target organ effects.

BA-656B-MSDS-E - 1 -

^{**} All the information is provided on the basic in good faith, and is believed to be trustworthy but is for reference only. Adhesion is very complicated and the result of it is much dependent on the surface material, additives, releasing agents of the substrates and user's methods. UEA and its agents, dealers, distributors, directors and employees cannot accept any liability for the results whatsoever arising from the use of UEA's products due that the utilization of these products is simply out of UEA's control. The users are responsible for selecting the suitability of the products and methods of use.

MATERIAL SAFETY DATA SHEET

Ingestion:

Gastrointestinal Irritation : Signs / symptoms may include abdominal pain, stomach

upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs / symptoms may include headache, dizziness, and drowsiness, in coordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Ocular Effects : Signs / symptoms may include blurred or significantly

impaired vision.

Auditory Effects : Signs / symptoms may include hearing impairment, balance

dysfunction and ringing in the ears.

Peripheral Neuropathy : Signs / symptoms may include tingling or numbness of the

extremities, in coordination, weakness of the hands and feet,

tremors and muscle atrophy.

Olfactory Effects : Signs / symptoms may include decreased ability to detect

odors and / or complete loss of smell.

Neurological Effects : Signs / symptoms may include personality changes, lack of

coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and / or changes in blood

pressure and heart rate.

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

4. First Aid Measures

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact : Flush eyes with large amounts of water. If signs / symptoms persist,

get medical attention.

Skin Contact : Remove contaminated clothing and shoes. Immediately flush skin with

large amounts of water. Get medical attention. Wash contaminated

clothing and clean shoes before reuse.

Inhalation : Remove person to fresh air. If signs / symptoms develop, get medical

attention.

If Swallowed : Do not induce vomiting unless instructed to do so by medical personnel.

Give victim two glasses of water. Never give anything by mouth to an $% \left(1\right) =\left(1\right) +\left(1\right$

unconscious person. Get medical attention.

5. Fire Fighting Measures

A. Flammable Properties

Autoignition temperature : No Data Available

Flash Point : -14°F (Test Method : Closed Cup)

Flammable Limits - LEL : 1% Volume Flammable Limits - UEL : 7% Volume

B. Extinguishing Media

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

BA-656B-MSDS-E - 2 -

^{**} All the information is provided on the basic in good faith, and is believed to be trustworthy but is for reference only. Adhesion is very complicated and the result of it is much dependent on the surface material, additives, releasing agents of the substrates and user's methods. UEA and its agents, dealers, distributors, directors and employees cannot accept any liability for the results whatsoever arising from the use of UEA's products due that the utilization of these products is simply out of UEA's control. The users are responsible for selecting the suitability of the products and methods of use.

MATERIAL SAFETY DATA SHEET

C. Protection of Fire Fighters

Special Fire Fighting Procedures:

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards:

Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

6. Accidental Release Measures

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

7. Handling and Storage

A. Handling

- Do not eat, drink or smoke when using this product.
- ullet Wash exposed areas thoroughly with soap and water.
- Ground containers securely when transferring contents.
- Wear low static or properly grounded shoes.
- Avoid breathing of vapors, mists or spray.
- Avoid static discharge.
- Avoid eye contact with vapors, mists, or spray.
- Keep out of the reach of children.
- ◆ Vapors may ignite explosively.
- May cause flash fire.
- Prevent build-up of vapors open all windows and doors.
- Maintain vapor concentrations below recommended exposure limits.

BA-656B-MSDS-E - 3 -

MATERIAL SAFETY DATA SHEET

- Use only with cross-ventilation.
- Without adequate ventilation, vapors may settle in low-lying areas.
- Keep away from heat, sparks, and open flame.
- Do not smoke or ignite matches, lighters, etc.
- Avoid contact with oxidizing agents.

B. Storage

- Store away from acids.
- Store out of direct sunlight.
- Keep container tightly closed.
- Store away from heat.
- Keep container in well-ventilated area.
- Store away from oxidizing agents.

8. Exposure Controls / Personal Protection

A. Engineering Controls

Provide appropriate local exhaust ventilation on open containers. Use general dilution ventilation and / or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and / or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

B. Personal Protective Equipment (PPE)

Eye / Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

Skin Protection

Avoid skin contact

Select and use gloves and / or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and / or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Polyvinyl Alcohol (PVA).

Respiratory Protection

Avoid breathing of vapors, mists or spray.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges.

Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

9. Stability and Reactivity

Stability : Stable.

 $\hbox{\tt Materials and Conditions to Avoid} \qquad \qquad \hbox{\tt :} \qquad \hbox{\tt Strong oxidizing agents}$

Hazardous Polymerization : Hazardous polymerization will not occur.

10. Toxicological Information

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and / or its components.

BA-656B-MSDS-E - 4 -

^{**} All the information is provided on the basic in good faith, and is believed to be trustworthy but is for reference only. Adhesion is very complicated and the result of it is much dependent on the surface material, additives, releasing agents of the substrates and user's methods. UEA and its agents, dealers, distributors, directors and employees cannot accept any liability for the results whatsoever arising from the use of UEA's products due that the utilization of these products is simply out of UEA's control. The users are responsible for selecting the suitability of the products and methods of use.

MATERIAL SAFETY DATA SHEET

11. Ecological Information

Ecotoxicological Information : Not determined Chemical Fate Information : Not determined

12. Disposal Consideration

Waste Disposal Method : Incinerate in a permitted hazardous waste incinerator. As

a disposal alternative, dispose of waste product in a

permitted hazardous waste facility.

EPA Hazardous Waste Number : D001 (Ignitable)

(RCRA):

Since regulations vary, consult applicable regulations or authorities before disposal.

13. Transport Information

Special Transportation Note:

Keep away from foodstuff, acid, and alkalis, put between $5-40^{\circ}C$

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

BA-656B-MSDS-E - 5 -