



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	Y440
HAZARDS CLASSIFICATION	HAZARDS MATERIAL, FLAMMABLE MATERIAL
Product Application	Adhesives
Company	Ultra Energy Adhesive Trading Company Limited
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Date Prepared	15.06.1996
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	Weight(%)	CAS NO.	TWA	STEL
SBS Rubber	25<		-	-
Phenolic Resin	5<	9003-35-4	-	-
Petroleum Resin	20<	-	-	-
Solvents	60<	110-82-7	-	300
Additive	1.0<	-	-	-
TOTAL	100.0	-	-	-

* The TWA and the STEL data is based to the Ministry of Labor publication " industrial hygienic business handbook ".

3. HAZARD IDENTIFICATION

	Health	Fire	Reactivity	Persistence
NFPA (0~4)	1	3	0	0
CERCLA (0~3)	3	3	0	X

➤ Emergency Hazard Information:

The material that has a carcinogenic danger is contained.

(It contains the material that causes the cancer in the animal.)

The cancer danger follows in duration and level of contact and it is controlled.



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There is a possibility of irritation in the respiratory organ, skin and the eyes.

There is a possibility of decreasing an effect in central nervous system.

Do not contact to eye, skin and clothing.

Combustible liquid and fume.

There is a dangerous characteristic of ignition.

It will have to quarantine from all ignition sources.

After work, clear your body thoroughly.

Use in an appropriate ventilated workplace.

➤ Influence on eye:

- Acute contact: May cause irritation.
- Chronic contact: May cause irritation.

➤ Influence on skin:

- Acute contact: May cause irritation. Additionally cause a burn and tingle pain.
- Chronic contact: Additionally with the blister and itchy it could be contained to acute contact effect.

➤ Influence on inhalation:

- Acute inhalation: May cause irritation. Additionally vomit, convulsion, coma, sleepiness and the feeling get drunk, pupil magnification, the heart damage and nervous obstacle could be contained.
- Chronic inhalation: May cause Tinnitus, gastralgia, vomit, language difficulty, the chest pain, memory loss and disorders of menstruation, blood obstacle and vision indistinctness.

➤ Influence on digestion:

- Acute digestion: With it is reported from the different exposure course it will be able to cause a same effect. Additionally cause the feeling get drunk and lung diseases.
- Chronic digestion: The data nil against the counter result which is important.
- Additional data: When it drinks, it will be able to deteriorate an effect.

➤ Carcinogenic effect:

Korea Industrial Safety and Health Act	N/A
OSHA	N/A
NTP	N/A
IARC	N/A

4. FIRST-AID MEASURES

EYE : Flush with clean, lukewarm water (low pressure) or saline solution for at least 15-20 minutes while lifting eyelids with fingers to ensure that the chemical is

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being flushed out of the eyes. Refer individual to physician or ophthalmologist for immediate follow-up.

Remove contaminated clothing and shoes immediately. Wash affected areas thoroughly with soap and water. Wash contaminated clothing and clean

SKIN : shoes thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists.

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. Consult physician.

DIGESTION : Do not induce vomiting. Give 1 to 2 cups of milk or water to drink for dilution. Do not give anything by mouth to an unconscious or convulsing person. Consult physician immediately. Should vomiting occur keep head lower than hip level to prevent aspiration.

Information on - Antidote

physician : There is no specific antidote.
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Usual fire/ explosion hazards:

When it is exposed to the flame or heat, there is a fire danger.

The fume is heavier air and moves more distance, it could backfire by ignition sources.

The blend of the fume and air has an explosive characteristic.

Flash point: -22 ~ 4 °C

Auto-ignition temperature: 225 ~ 53 °C

Lower explosive limit: 1.1 ~ 2.6%

Upper explosive limit: 7.1 ~ 12.8%

Extinguishing media:

Dry chemical, Carbon dioxide, Foam, Water spray for large fires.

Fire fighting instruction:

Shut off fuel if possible to do without hazard.

Evacuate area and fight fire from a safe distance.

To the case where the formation fire occurs from the store area, it uses the unmanned hose carrier or the monitor nozzle from the fire area and to the case where this is impossible it evacuates the



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other atlas, it must throw away.

When the tank, the freight car and the tank truck are enveloped in fire, it will have to quarantine over half-mile (approximately 800 m).

Apply water from a safe distance to cool and protect surrounding area.

Firefighters should wear proper protective equipment.

Not available extinguishing media: No information.

6. ACCIDENTAL RELEASE MEASURES

➤ Personal precautions:

Use personal protective equipment.

Do not inhale the volatilized solvent directly.

In order to prevent the dangerous characteristic of explosion and fire, it keeps away from ignition sources and forbids the approach other than the interested party.

➤ Environmental precautions:

- Do not allow to enter drains or waterways.

- Do not discharge into the subsoil/ soil.

- Absorb spills with waste or dry sand or earth, then place in a chemical waste container. For large spills, prevent them from entering into sewers, watercourses or low area by mounding soil, then recover to a chemical waste container.

➤ Method for cleaning up:

Take up with absorbent materials (sand, kieselguhr, universal binder)

Dispose of absorbed material in accordance with the regulations.

7. HANDLING AND STORAGE

Handling:

- Wear suitable chemical resistant gloves, safety goggles, dust mask and other protective clothing.

Use in the well-ventilated areas. Prevent build-up electrostatic charges (by grounding). Set safety shower and eye bath.

- Keep away from acidic material.

Storage: Store in its original container in a cool environment, keep away from heat, sparks and open flame. Ground containers during storage and transfer operations to avoid static sparks. Store in tightly closed containers and do not reseal if contamination is suspected. Ideal storage temperature range for ease of handling is 10 ~ 27°C.



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Ventilation requirements:

With the following equation, in order for with the value that it calculates not to go over 1, must pay attention in circulation the workplace.

$$\frac{C_1}{T_1} + \frac{C_2}{T_2} + \dots + \frac{C_n}{T_n}$$

C : Chemical material each measurement concentration

T : Chemical material each permission concentration

Good industrial hygiene practice dictates that worker protection should be achieved through engineer controls, feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated.

- Eye protection requirements:

Liquid chemical goggles. Vapor resistant goggles should be worn when contact lenses are in use. In a splash hazard environment chemical goggles should be used in combination with a full face-shield.

- Skin protection requirements:

Permeation resistant gloves (butyl rubber, nitrile rubber). Cover as much of the exposed skin area as possible with appropriate clothing (long sleeve shirts, trousers, etc.) If skin cream are used, keep the area protected only by the cream to minimum.

- Respirator requirements:

A respirator that is recommended or approved for use may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity	0.84 ~ 0.88
Vapor pressure	95 mmHg (20°C)
Appearance	Yellowish Viscous Liquid
Solubility	Not soluble in water
Viscosity	2,600 ~ 3,000 cps (20°C)
Solid contents	36.5 ~ 39.5 (% , 150°C x 60 minutes)

10. STABILITY AND REACTIVITY

- Reactivity:

Stable under normal conditions.

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➤ Conditions and materials to avoid:

Avoid the fire, spark, flame and other ignition sources.

The fume has an explosive characteristic.

Avoid the overheating of container.

The container could burst violently by fire.

➤ Decomposition products:

By high heat and fire, the following materials could be contained.

Carbon dioxide, carbon materials, methane, formaldehyde, methanol, peroxyacetic acid materials, phosgene gas and other corrosive oxidized materials.

➤ Avoidable materials:

- 1,3-dichloro-5, 5-dimethyl-2, 4-imidazolidinedione: Violent reaction.
- Dinitrogen Pentoxide: May cause explosiveness
- Silver Perchlorate: The blend formation which is sensitive to a shock.
- Copper, Nickel: From the place which has moisture it follows in temperature rise, the corrosion may occur.
- Magnesium: May cause explosiveness
- Oxygen(c): Fire or explosiveness
- Oxygen (l): Explosiveness at ignition point
- Stainless steel: From the place which had moisture it follows in temperature rise, the corrosion may occur.
- Alkaline metal: May cause explosiveness by reaction
- Chlorine (l): Fire or explosiveness
- Nitrogen dioxide (sol.): May cause explosiveness
- Nitric acid: Violent reaction
- Sulfuric acid: Exothermic reaction

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Oral rat LD50: 2737 mg/kg; inhalation rat LC50: 23,500 mg/m³/8-hr; skin rabbit LD50: 6480 mg/kg; investigated as a mutagen, reproductive effector.

Oral rat LD50: >20 g/kg; investigated as a mutagen, tumorigen, reproductive effector.

Dichloromethane: Oral rat LD50: 1600 mg/kg; inhalation rat LC50: 52 gm/m³; investigated as a tumorigen, mutagen, reproductive effector.

Oral rat LD50: 636 mg/kg; skin rabbit LD50: 14100 uL/kg; inhalation rat LC50: 49 gm/m³/4H;

Irritation data: skin rabbit, 500 mg, Moderate; eye rabbit, 2mg/24H, Severe. Investigated as a

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tumorigen, mutagen, reproductive effector.

➤ Reproductive Toxicity:

Has shown teratogenic effects in laboratory animals.

Dichloromethane has been linked to spontaneous abortions in humans

Has shown some evidence of reproductive effects in laboratory animals.

➤ Carcinogenic effect:

Korea Industrial Safety and Health Act	N/A
OSHA	N/A
NTP	N/A
IARC	N/A

➤ Corrosive and irritant properties:

Not reported

➤ Mutagenic effects:

Not reported

➤ Teratogenic effects:

Not reported

➤ Effect on the reproductive system:

Not reported

12. ECOLOGICAL INFORMATION

➤ Biodegradability:

No information

➤ Bioaccumulation:

No information

➤ Fish toxicity:

No information

➤ Other information:

No information

13. DISPOSAL CONSIDERATION

Should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

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14. TRANSPORT INFORMATION

Before loading, make sure that no leakage happened. Avoid overturn, fall-down, freezing and any other damage both on loading and transporting under competent regulations in your country.

➤ UN class:

Not applicable

➤ UN number:

Not applicable

15. REGULATORY INFORMATION

➤ Korea Industrial Safety and Health Act:

Organic solvent 2nd grade, indication object

➤ Harmful Chemical Substance Administration Law:

Poisonous materials

➤ The Fire Services Act:

The 4th type, the 1st petroleum type

16. OTHER INFORMATION

➤ This information is prepared by the article 41ths of Industrial Safety and Health Act

➤ This MSDS is prepared by the information of Korea Occupational Safety and Health Agency

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