

1. IDENTIFICATION OF THE MIXTURE AND OF THE SUPPLIER
Product Identifier

Product	Hardener for Etch Primer [21-24]
Recommended use of chemical	Use as hardener
Restriction on use	No open flames, No sparks, and No smoking

Supplier's details

Company	Big-Ben Chemical Company Limited
Address	168 Mu 2 Donkhaidee Krathumban Samutsakorn 74110 Thailand
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Emergency phone number	+66 2 811 1442 or + 66 2 811 1443

2. HAZARD IDENTIFICATION

Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CSR 1910.1200; the SDS and labels contain all the information as required by the standard.

Flammable liquids	Category 2
Acute toxicity - oral	Category 5
Acute toxicity - dermal	Category 1
Skin corrosion/irritation	Category 2
Specific target organ toxicity (single exposure)	Category 1
Hazardous to the aquatic environment - acute hazard	Category 3

Remark:

Percentage of mixture consisting of ingredient(s) of unknown oral toxicity: 6.06%

Percentage of mixture consisting of ingredient(s) of unknown dermal toxicity: 36.06%

Percentage of mixture consisting of ingredient(s) of unknown inhalation toxicity: 23.20%

GHS label elements

Pictogram or symbol



Signal word

Danger

Hazard statement:

H225 Highly Flammable liquid and vapour

H303 May be harmful if swallowed

H310 Fatal in contact with skin

H315 Causes skin irritation

H370 Causes damage to organs

H402 Harmful to aquatic life

Precautionary statement

[PREVENTION]

P210 Keep away from heat / sparks / open flames / hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground / bond container and receiving equipment.

P241 Use explosion-proof electrical / ventilating / lighting / equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe dust / fume / gas / mist / vapors / spray.

P262 Do not get in eyes, on skin, or on clothing.
P264 Wash thoroughly after handling.
P270 Do no eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

[RESPONSE]

P302+P350 IF ON SKIN Gently wash with plenty of soap and water.
P302+P352 IF ON SKIN Wash with plenty of soap and water.
P303+P361+P353 IF ON SKIN (or hair) Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P307+P311 IF exposed Call a POISON CENTER or doctor / physician.
P310 Immediately call a POISON CENTER or doctor / physician.
P312 Call a POISON CENTER or doctor / physician if you feel unwell.
P321 Specific treatment (see on this label).
P322 Specific measures (see on this label).
P332+P313 IF skin irritation occurs Get medical advice / attention.
P361 Remove / Take off immediately all contaminated clothing.
P362 Take off contaminated clothing and wash before reuse.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire Use dry sand, dry chemical or alcohol-resistant foam for extinction.

[STORAGE]

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

[DISPOSAL]

P501 Dispose of contents / container in accordance with local / regional / national / international regulations.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Content % (w/w)
1-ACETOXY-2-ETHOXYETHANE	111-15-9	16.28 - 18.85
Butyl Acetate	123-86-4	44.47 - 51.49
Methanol	67-56-1	28.49 - 32.99
Orthophosphoric acid	7664-38-2	2.83 - 3.28
water	7732-18-5	2.93 - 3.39

4. FIRST AID MEASURES

Inhalation	Remove to fresh air. If unconscious, place in recovery position and seek medical attention immediately.
Skin contact	Immediately flush with water for at least 15 minutes. Remove contaminated clothing. Seek medical attention immediately. Wash thoroughly after handling.
Eye contact	Hold eyelids apart and immediately flush with plenty of water for 15 minutes. Seek medical advice. Remove contact lenses.
Ingestion	Rinse mouth with water. Never give anything by mouth to an unconscious person. Obtain medical attention. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Most important symptoms/effects, acute and delayed	Dizziness. Drowsiness. Headache. Nausea. Vomiting. Weakness. Unconsciousness. Skin and eye redness. Pain. Nausea. Vomiting.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Dry chemical. Carbon Dioxide (CO ₂). Alcohol-resistant foam. Water spray.
Unsuitable extinguishing media	High volume water jet.
Specific hazards arising from the chemical	Flammable liquid. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Container may rupture on heating.
Specific protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and full protective clothing for firefighting.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment Keep unnecessary personnel away. Prevent further leakage or spillage if safe to do so. Use personal

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Prevent further leakage or spillage if safe to do so. Use personal protective equipment. Use only non-sparking tools.
Environmental precautions	Prevent the material from entering drains or water courses.
Methods and materials for containment and cleaning up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations.

7. HANDLING AND STORAGE

Precautions for safe handling	Avoid breathing vapor and contact with eyes, skin, and clothing. Do not leave containers open. Avoid repeated or prolonged contact with skin.
Conditions for safe storage, including any incompatibilities	Keep away from heat or flames. Keep in cool, dry, ventilated storage and in closed containers. Store away from oxidizing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters	<u>1-ACETOXY-2-ETHOXYETHANE</u> OSHA PEL-TWA 100 ⁶¹ Skin notification Y ⁶¹ NIOSH REL-TWA 0.5 ⁶¹ Skin notification Y ⁶¹ ACGIH TLV-TWA 5 ⁶¹ Skin notification Y ⁶¹ CAL/OSHA PEL-TWA 5 ⁶¹ Skin notification Y ⁶¹ Safe Work Australia (Australia, 4/2024) TWA : 2 ppm 8 hours. ¹⁰ TWA : 10.9 mg/m ³ 8 hours. ¹⁰
	<u>Butyl Acetate</u> OSHA PEL-TWA 150 ⁴⁹ Skin notification N ⁴⁹ NIOSH REL-TWA 150 ⁴⁹ REL-STEL 200 ⁴⁹ Skin notification N ⁴⁹ ACGIH TLV-TWA 50 ⁴⁹ TLV-STEL 150 ⁴⁹ Skin notification N CAL/OSHA PEL-TWA 150 ⁴⁹ PEL-STEL 200 ⁴⁹ Skin notification N ⁴⁹ Safe Work Australia (Australia, 4/2024) TWA : 50 ppm 8 hours. ¹⁰ TWA : 270 mg/m ³ 8 hours. ¹⁰ STEL : 100 ppm 15 minutes. ¹⁰ STEL : 541 mg/m ³ 15 minutes. ¹⁰
	<u>Methanol</u> OSHA PEL-TWA 200 ⁶² Skin notification N ⁶² NIOSH

REL-TWA 200⁶²
REL-STEL 250⁶²
Skin notification Y⁶²
ACGIH
TLV-TWA 200⁶²
TLV-STEL 250⁶²
Skin notification Y⁶²
CAL/OSHA
PEL-TWA 200⁶²
PEL-STEL 250⁶²
PEL-C 1000⁶²
Skin notification Y⁶²
Safe Work Australia (Australia, 4/2024)
TWA : 100 ppm 8 hours. ²⁵
TWA : 130 mg/m³ 8 hours. ²⁵
Safe Work Australia (Australia, 4/2024)
TWA : 1 mg/m³ 8 hours. ²⁵
STEL : 3 mg/m³ 15 minutes. ²⁵
Provide adequate ventilation. Install local exhaust.

Appropriate engineering controls

Personal protective equipment

Respiratory protection	Organic vapor respirator
Hand protection	Rubber gloves. Neoprene.
Eye protection	Safety goggle.
Skin and body protection	Wear suitable clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Colour	Transparent
Odour	Organic solvent
pH	Not available
Melting point/freezing point	Not Available
Boiling point or initial boiling point and boiling range	64.7 °C (148.5 °F) (Methanol)
Flash point	9.7 °C (49.5 °F) (Methanol)
Flammability	Flammable
Lower and upper explosion limit/flammability limit	Not available
Vapour pressure	16 hPa at 20 °C (Butyl Acetate)
Density and/or relative density	0.82 - 0.92 g/cm ³
Relative vapour density	Not available
Solubility	Soluble in Organic solvent
Partition coefficient n-octanol/water (log value)	Not applicable
Auto-ignition temperature	455.0 °C (851.0 °F) (Methanol)
Decomposition temperature	Not applicable
Viscosity	10 - 12 second at 30 °C
Particle characteristics	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	Reacts violently with strong acids and strong oxidants
Chemical stability	Stable under normal storage and handling conditions
Possibility of hazardous reaction	Will not occur

Condition to avoid	High temperatures, sparks, open flame, and all other sources of ignition
Incompatible materials	Strong oxidizing agents, strong acids
Hazardous decomposition products	Not available

11. TOXICOLOGICAL INFORMATION

Acute toxicity (oral)	ATEmix = 2643.40 mg/kg (Category 5) 1-ACETOXY-2-ETHOXYETHANE LD50 (rat) oral = 2900.00 mg/kg ⁵⁴ Butyl Acetate LD50 (rat) oral = 10736.00 mg/kg ²⁷ Methanol LD50 (rat) oral = 1187.00 mg/kg ⁵⁵
Acute toxicity (dermal)	ATEmix = 21.84 mg/kg (Category 1) 1-ACETOXY-2-ETHOXYETHANE LD50 (rabbit) dermal = 10300.00 mg/kg ⁵⁴ Butyl Acetate LD50 (rabbit) dermal = 16.00 mg/kg ²⁷
Acute toxicity (inhalation)	Not available
Skin corrosion and skin irritation	Causes skin irritation (Orthophosphoric acid)
Serious eye damage or eye irritation	Not classified
Respirator and skin sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity following single exposure	Causes damage to organs (Butyl Acetate,Methanol)
Specific target organ toxicity following repeated exposure	Not classified
Aspiration hazard	Not classified

12. ECOLOGICAL INFORMATION

Acute aquatic hazard	Harmful to aquatic life <u>1-ACETOXY-2-ETHOXYETHANE</u> LC50 (fish) 96 hr = 40 mg/L ⁵⁸ <u>Butyl Acetate</u> LC50 (fish) 96 hr = 18 mg/L ²⁷ EC48 (shrimp) 48 hr = 32 mg/L ²⁷ <u>Methanol</u> LC50 (fish) 96 hr = 15400 mg/L ⁵⁵ EC48 (shrimp) 48 hr = 18260 mg/L ⁵⁵ ErC-EC72 (Fungi) 96 hr = 2200 mg/L ⁵⁵ <u>Orthophosphoric acid</u> ErC-EC72 (Fungi) 96 hr = 100 mg/L ^{undefined}
Long term aquatic hazard	No information
Persistence and degradability	Rapidly degradable (Butyl Acetate,Methanol)
Bioaccumulative potential	Bioaccumulative potential <u>1-ACETOXY-2-ETHOXYETHANE</u> log KOW = 0.24 ⁵⁹ BCF = 3 ⁵⁹ <u>Butyl Acetate</u> log KOW = 1.78 ⁴³ BCF = 7.00 ⁴³ <u>Methanol</u> log KOW = -0.77 ⁶⁰ BCF = 10 ⁶⁰
Mobility in soil	The product is insoluble in water. If released to water, some of the components will have tendency to evaporate while other components are expected to be highly mobile in soil and have the potential to reach underground water supplies.

Other adverse effects Not available

13. DISPOSAL CONSIDERATIONS

Disposal methods Disposing of this material/container should be done under all the regulations or handled by authorized waste collector in your country

Container disposal Do not re-use empty containers

14. TRANSPORT INFORMATION

Labels required



UN number 1263

UN proper shipping name Paint

Transport hazard class(es) 3

Packing group III

Environmental hazards Not applicable

Special precautions Not applicable

Transport in bulk Not applicable

15. REGULATORY INFORMATION

Inventory of existing chemical substance produced or imported in USA (TSCA) All component in this product are listed

Toxic substance control act (TSCA) All component in this product are listed

16. OTHER INFORMATION

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