

# Cationic Emulsion Breaking Agent

## SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Cationic Emulsion Breaking Agent
<b>Other Means of Identification</b>	Cationic Emulsion Breaking Agent
<b>Recommended Use</b>	Cationic Emulsion Breaking.
<b>Restrictions on Use</b>	None known.
<b>Manufacturer/Supplier Identifier</b>	McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4, 416-281-8181
<b>Emergency Phone No.</b>	McAsphalt Industries Ltd., 1 - (800) - 268 - 4238, 8AM-5PM Monday to Friday CANUTEC, (613) 996 - 6666, 24 hours

## SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

### Classification

Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Skin corrosion - Category 1; Serious eye damage - Category 1

### Label Elements



### Warning

Harmful if swallowed or in contact with skin.

Causes serious eye damage.

If SWALLOWED: Call a POISON CENTRE/doctor/ if you feel unwell.

IF ON SKIN: Wash with plenty of water

### Other Hazards

May cause irritation to skin and eyes. Do not ingest product.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Water	7732-18-5	70-90		
Potassium hydroxide	1310-58-3	10-30		

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get

medical attention immediately.

#### **Skin Contact**

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Call physician immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

#### **Eye Contact**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately. Finish by rinsing thoroughly with running water to avoid a possible infection.

#### **Ingestion**

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waist band. Get medical attention immediately.

#### **First-aid Comments**

Ensure that medical personnel are aware of the materials involved and take precautions to protect themselves. show this safety data sheet to the doctor in attendance.

#### **Most Important Symptoms and Effects, Acute and Delayed**

Repeated or prolonged exposure can irritate the skin. May burn the skin. Permanent scarring may result.

If in eyes: causes moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

If swallowed: symptoms may include nausea, vomiting, stomach cramps and diarrhea.

#### **Immediate Medical Attention and Special Treatment**

##### **Target Organs**

Eyes, respiratory system, skin. Gastro-intestinal tract.

##### **Special Instructions**

Immediate medical attention is required. causes chemical burns. maybe harmful or fatal if swallowed. symptoms maybe delayed.

##### **Medical Conditions Aggravated by Exposure**

Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated skin exposure can produce local skin destruction or dermatitis.

## **SECTION 5. FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Not combustible. Use extinguishing agents compatible with product and suitable for surrounding fire. If water is used, care should be taken, since it can generate heat and cause spattering if applied directly to potassium hydroxide.

#### **Unsuitable Extinguishing Media**

Do not use Carbon Dioxide CO<sub>2</sub>.

### **Specific Hazards Arising from the Product**

Not flammable

Solid potassium hydroxide in contact with moisture or water may generate sufficient heat to ignite nearby combustible materials. Potassium hydroxide can react with a number of commonly encountered materials, such as acids, releasing enough heat to ignite nearby combustible materials. When moist, potassium hydroxide can react with metals, such as aluminum, tin and zinc, to form flammable and explosive hydrogen gas. When hot or in the molten state, it can react violently with water causing spattering and releasing an irritating mist. Toxic potassium oxide fumes can be generated by thermal decomposition at elevated temperatures. Closed containers may rupture violently when heated.

### **Special Protective Equipment and Precautions for Fire-fighters**

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Evacuate area and fight fire from a safe distance or a protected location. Approach fire from upwind to avoid toxic decomposition products.

Water must be used with extreme caution to extinguish a fire in an area where potassium hydroxide is stored and must not come into contact with the potassium hydroxide.

Potassium hydroxide does not burn and does not support combustion. However, closed containers may rupture violently when exposed to the heat of the fire. If possible, isolate materials not yet involved in the fire and move containers from the fire area if this can be done without risk and they have not been exposed to heat. Use extreme caution since decomposition may occur under fire conditions and heat may rupture containers. If it is not possible to move containers, apply water in flooding quantities from the side and from a safe distance, to keep fire-exposed containers, tanks or car/trailer loads cool and absorb heat to help prevent rupture, and protect personnel. If necessary, use unmanned monitors and hoseholders to keep cooling streams of water on fire-exposed tanks or containers until well after the fire is out. Water spray may also be used to knock down corrosive and toxic fumes and vapours which may be produced in a fire. Fire control or dilution water may be corrosive and/or toxic. Dike fire control water for appropriate disposal.

Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank. ALWAYS stay away from the ends of tanks, but be aware that flying material (shrapnel) from ruptured tanks may travel in any direction. Tanks or drums should not be approached directly after they have been involved in a fire, until they have been completely cooled down.

Potassium hydroxide solid and solutions are very corrosive and at high temperatures decomposition occurs giving off strong, corrosive fumes of potassium oxide. Do not enter without wearing specialized equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. Chemical protective clothing (e.g. chemical splash suit) and positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch or walk through spilt material. Wear appropriate personal protective equipment. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean up. Ventilate close spaces before entering them. Do not touch or walk through a spilled material.

### Environmental Precautions

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear adequate protective clothing and equipment. Remove chemicals which can react with the spilled material. Notify government occupational health and safety and environmental authorities.

### Methods and Materials for Containment and Cleaning Up

Contain spill or leak. Do not allow entry into sewers or waterways. Shovel or sweep up dry potassium hydroxide for recycling or disposal. Neutralize final traces and flush area with water.

Solutions should be contained by diking with inert material, such as sand or earth. Solutions can be recovered or trained personnel can carefully dilute with water and cautiously neutralize with acids such as acetic acid or hydrochloric acid.

Large spills: contact fire and emergency services and supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

This material is corrosive and reactive. Before handling, it is very important that engineering controls are operating and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Maintenance and emergency personnel should be advised of potential hazards. Use the smallest possible amounts in an area separate from the storage area. Immediately report leaks, spills or failures of the engineering controls. Inspect containers for damage or leaks before handling. Use the type of containers recommended by the manufacturer. Unprotected persons should avoid all contact with this chemical including contaminated equipment. Do not use with incompatible materials such as strong acids, nitroaromatic, nitroparaffinic or organohalogen compounds. See Incompatibilities - Materials to Avoid section for more information.

Avoid generating dust and mist. Prevent the release of dust and mist into the workplace air. Transfer using tools or

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equipment which are corrosion-resistant. Cautiously, transfer into sturdy containers made of compatible materials. Never return contaminated material to its original container. Immediately contact the chemical supplier/manufacturer for handling instructions if containers appear to be swollen.

Never add water to a corrosive. Always add corrosives to water. When mixing with water, stir small amounts in slowly. Use cold water to prevent excessive heat generation. In general, keep solid sodium hydroxide away from water. Post "DO NOT USE WATER" signs in area of use to prevent accidental contact. Do not perform any welding, cutting, soldering, drilling or other hot work on an empty vessel, container or piping until all material has been cleared. Label containers and keep containers closed when not in use. Follow handling precautions on Safety Data Sheet. Have suitable emergency equipment for fires, spills and leaks readily available. Practice good housekeeping. Maintain handling equipment. Comply with applicable regulations.

Eye wash fountains and safety showers should be located near any area where potassium hydroxide is handled. Remove contaminated clothing promptly. Keep contaminated clothing in closed containers. Discard or launder before re-wearing. Inform laundry personnel of contaminant's hazards. Do not smoke, eat or drink in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping.

### Conditions for Safe Storage

Store in a cool, dry, well-ventilated area. Keep quantity stored as small as possible.

Store away from incompatible materials such as strong acids, nitroaromatic, nitroparaffinic or organohalogen compounds. Take measures to ensure storage area cannot be contaminated with water. See Incompatibilities - Materials to Avoid section for more information.

Inspect all incoming containers to make sure they are properly labelled and not damaged. Always store in original labelled container, or in the type of container recommended by the manufacturer/supplier. Protect the label and keep it visible. Keep containers tightly closed when not in use and when empty. Protect from damage.

Containers may develop pressure after prolonged storage. Drums may need to be vented. Venting should only be performed by trained personnel. Follow supplier/manufacturer recommendations. If drums are swollen, contact the manufacturer/supplier immediately for assistance. Handling swollen drums requires special procedures and equipment. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Keep storage area separate from work areas. Post warning signs. Inspect periodically for damage or leaks. Floors should be watertight and without cracks. Use corrosion-resistant structural materials and lighting and ventilation systems in the storage area.

Keep empty containers in separate storage area. Empty containers may contain hazardous residues. Keep closed. Avoid any dust build-up by frequent cleaning and suitable construction of storage area. Provide raised sills or ramps at doorways or create a trench which will contain any carried or dissolved solids.

Storage tanks for solutions should be above ground and surrounded with dikes capable of holding entire contents. Have appropriate fire extinguishers and spill clean-up equipment in storage area. Follow any special instructions for storage on Material Safety Data Sheet (e.g. maximum storage quantities).

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Potassium hydroxide				2 mg/m3		

### Appropriate Engineering Controls

Engineering methods to control hazardous conditions are preferred. General methods include mechanical ventilation (dilution and local exhaust), process or personnel enclosure, control of process conditions and process modification (e.g., substitution of a less hazardous material). Administrative controls and personal protective equipment may also be required.

Use local exhaust ventilation, and process enclosure if necessary, to control airborne dust and mist. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside, taking the necessary precautions for environmental protection. Supply sufficient replacement air to make up for air removed by exhaust systems.

### Individual Protection Measures

#### Eye/Face Protection

Wear safety glasses; chemical goggles (if splashing is possible). Wear chemical goggles; face shield (if handling molten material).

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### Skin Protection

Wear chemical protective clothing e.g. gloves, long sleeves, boots.

### Respiratory Protection

For conditions where exposure to the substance is apparent, consult an industrial Hygienists. For emergencies, or instances where the exposure levels are not known, use full face positive air supplied respirator.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Light white viscous liquid. Absorbs moisture from the air. Particle Size: Not available
<b>Odour</b>	(Potassium hydroxide)
<b>Odour Threshold</b>	Not available
<b>pH</b>	13 - 14
<b>Melting Point/Freezing Point</b>	Not available (melting); -7 °C (freezing)
<b>Initial Boiling Point/Range</b>	110 °C (Potassium hydroxide)
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper/Lower Flammability or Explosive Limit</b>	Not applicable (upper); Not applicable (lower)
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	~ 0.62 (Potassium hydroxide)
<b>Solubility</b>	Soluble in all proportions in water; Highly soluble in alcohols (e.g. ethanol).
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available (kinematic); Not available (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid
<b>Bulk Density</b>	Not available
<b>Surface Tension</b>	Not available
<b>Critical Temperature</b>	Not available
<b>Electrical Conductivity</b>	Not available
<b>Vapour Pressure at 50 deg C</b>	Not available
<b>Saturated Vapour Concentration</b>	Not available

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Materials are stable under normal condition, Rapidly absorbs moistures and carbon dioxide from the air forming potassium carbonate.

### Possibility of Hazardous Reactions

Reacts vigorously or violently with with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides.attacks plastics, such as polyethylene terephthalate,

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polybutylene terephthalate, thermoset polyesters (bisphenol-A fumarate (50-100%), isophthalic acid and general purpose), polyamide-imide (Torlon), polyurethane (rigid) and thermoset chlorinated polyester; elastomers, such as styrene-butadiene (SBR), polyacrylate, polyurethane, fluorosilicone, silicone, chlorinated polyethylene and soft rubber; and coatings, such as polyester and vinyls (5-100%) and epoxy (general purpose and chemical resistant epoxy) (50-100%) at room temperature.

#### Conditions to Avoid

Do not use without adequate ventilation avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge.

#### Incompatible Materials

Chlorinated hydrocarbons, Chlorine dioxide, Maleic anhydride, Nitroethane, Nitroparaffins, Nitropropane, 2-nitrophenol. Phosphorus. Potassium persulfate. Tetrahydrofuran. ACROLEIN, ACRYLONITRILE metals (e.g. aluminum), water. Potassium hydroxide is very corrosive to all aluminum alloys at any concentration and any temperature. Potassium hydroxide is corrosive to brass (unspecified) 100% solutions, cartridge brass (40-100%), admiralty brass (100% solution), naval brass and yellow brass (all concentrations), bronze (unspecified) (50-100%), aluminum bronze (25%), silicon bronze (25%), tantalum (10-100%) and zinc (all concentrations) at room temperature. Potassium hydroxide solutions of all concentrations are not corrosive at room temperature to stainless steel (e.g. types 301, 303, 304, 305, 316, 347, 17-4PH, 400-series), carbon steel (types 1010 and 1020), ductile cast iron, nickel (types 200 and 201) and nickel-base alloys, Monel 400, Hastelloy C and Hastelloy C-276 and zirconium. Concentrations of 50-100% are not corrosive at room temperature to aluminum bronze and silicon bronze. Concentrations up to 70% are not corrosive at room temperature to Carpenter 20Cb-3, Inconel 600 and copper-nickel 70-30. Concentrations up to 50% are not corrosive at room temperature to Incoloy 800 and 825, copper and titanium.

#### Hazardous Decomposition Products

In the event of fire Potassium Oxides can be released.

## SECTION 11. TOXICOLOGICAL INFORMATION

LD50 (oral, rat): 205 mg/kg

LD50 (oral, rat): 365 mg/kg

LD50 (oral, male rat): 273 mg/kg

LD50 (dermal, rabbit): greater than 1260 mg/kg (at 1000 and 1260 mg/kg, 0/1 rabbit died; at 2000 and 3160 mg/kg, 1/1 rabbit died).

#### Likely Routes of Exposure

Inhalation; ingestion; eye contact; skin contact.

#### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Water		> 89840 mg/kg (rat)	
Potassium hydroxide		365 mg/kg (rat)	> 1260 mg/kg (rabbit)

#### Skin Corrosion/Irritation

Causes moderate to severe irritation. May burn the skin. Permanent scarring may result.

Potassium hydroxide is corrosive.

Application of 0.5 mL of a 10% solution for 4 hours caused tissue death in rabbits, which was observed at 4.5 hours. Because of the severity of the reaction, there were no further observations. Application of 0.5 mL of 5% potassium hydroxide solution for 4 hours caused severe irritation in rabbits (maximum average scores: erythema: 3.33/4 at 48 and 72 hours; edema: 2/4 at 24, 48 and 72 hours). No information was reported on reversibility. Application of 0.5 mL of 45% solution for 4 or 24 hours caused corrosive injury in rabbits, which was not healed after 21 days. A 10% solution was corrosive to rabbits and guinea pigs when applied to intact or broken skin for 4 hours. Severe destruction or irreversible alterations in the tissue at the site of contact were produced in all animals tested. Application of 0.5 mL of 2% potassium hydroxide to intact skin, under a patch for 4 hours, was corrosive in rabbits. The same treatment using 1% potassium hydroxide did not cause corrosion. Application of 0.1 mL of a 5% solution to intact or broken skin of rabbits for 24 hours resulted in mild irritation on intact skin and extreme irritation on broken skin.

#### Serious Eye Damage/Irritation

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Liquid or spray mist may produce tissue damage particularly on mucus membranes of eyes eYE IRRITANT. Causes moderate to severe irritation.

Potassium hydroxide is corrosive.

Application of 0.1 mL of 45% potassium hydroxide solution caused corrosive injury in rabbits after 1 minute. No scoring information was provided. Application of 0.1 mL of 5.0% potassium hydroxide solution for 5 minutes, before washing the eye with distilled water for 2 minutes, resulted in extreme irritation and corrosion in rabbits. Application of 0.1 mL of a 1% solution for 5 minutes or 24 hours before washing the eye resulted in irritation in rabbits. A 0.1% solution applied for 24 hours before washing the eye caused no irritation.

#### **STOT (Specific Target Organ Toxicity) - Single Exposure**

##### **Inhalation**

Harmful based on human experience and animal tests.

Inhalation of mists can cause severe respiratory irritation. Inhalation could result in pulmonary edema (fluid accumulation).

##### **Skin Absorption**

Not harmful based on animal tests.

Harmful if absorbed through the skin.

Potassium hydroxide did not cause skin sensitization in guinea pigs in one study

##### **Ingestion**

Maybe harmful or fatal if swallowed. Symptoms may include severe burns of the mouth, throat and stomach.

Severe scarring of tissue and death may result. Symptoms may include vomiting, diarrhea, decrease in blood pressure. Damage may appear days after exposure.

Exposure to very low doses, even for a short period of time, has produced extensive damage to the esophagus, stomach and intestine extending into surrounding tissues, as well as increased excitability followed by apathy and weakness. In some cases, death has resulted from bleeding, adhesions or perforation. Following esophageal damage, narrowing of the esophagus from scar formation (strictures) have frequently developed in surviving animals

#### **Aspiration Hazard**

Not known to be an aspiration hazard.

#### **STOT (Specific Target Organ Toxicity) - Repeated Exposure**

(Potassium hydroxide)

Harmful. The substance may be

toxic to upper respiratory tract, skin. Repeated or prolonged exposure to the substance can produce target organs damage.

#### **Respiratory and/or Skin Sensitization**

(Potassium hydroxide) it may irritate the respiratory system.

#### **Carcinogenicity**

(Potassium hydroxide) Not listed.

No information was located.

#### **Reproductive Toxicity**

##### **Development of Offspring**

No information was located.

No information was located.

##### **Sexual Function and Fertility**

This product is not reported to have any reproductive toxicity effects.

The substance maybe toxic to upper respiratory tract.

##### **Effects on or via Lactation**

Not known to cause effects on or via lactation.

#### **Germ Cell Mutagenicity**

Mutagenic for mammalian somatic cells.

The available evidence does not suggest that potassium hydroxide is a mutagen. No studies in live animals were located. Negative results were obtained in cultured mammalian cells and bacteria. Negative results (chromosome

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aberrations) were obtained in cultured mammalian cells, with and without metabolic activation

#### Interactive Effects

Not available.

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Because of the high PH of this product. It would be expected to produce significant Ecotoxicity upon exposure to aquatic organism and aquatic systems. However maybe neutralized by naturally occurring acidity in the environment. the ingredient Ecotoxicity is expected to be primarily associated with the high PH

### Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Potassium hydroxide	80 mg/L (96-hour)	56 mg/L (Ceriodaphnia Dubia; 48-hour)		

### Persistence and Degradability

No information was located.

### Bioaccumulative Potential

No accumulation in living organisms is expected due to high solubility and dissociation properties.

### Mobility in Soil

High water solubility indicates high mobility in soil

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. do not allow this material to drain into sewer/water supplies. Dispose with all applicable regulations.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1814	Potassium Hydroxide Solution	8	II

**Special Precautions** Not applicable

### Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

#### Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL. The components of this product are in compliance with the chemical notification requirements of the NSN regulation under CEPA.

#### USA

#### Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

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## SECTION 16. OTHER INFORMATION

**NFPA Rating**            **Health - 3**    **Flammability - 0**    **Instability - 0**  
**Based on**    Potassium hydroxide

**SDS Prepared By**    EPC & Risk Management Department

**Phone No.**            1 (416) 281 - 8181

**Date of Preparation**    January 23, 2018

**Date of Last Revision**    February 20, 2019

**Revision Indicators**    The following SDS content was changed on February 12, 2019:  
SECTION 11. TOXICOLOGICAL INFORMATION; LC50/LD50 values.

**Key to Abbreviations**    NFPA = National Fire Protection Association

**References**            CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

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