

date of issue : 08/11/2011

## Safety Data Sheet

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### 1. Product and Company Identification

Product name :Hardener 0-10

Name of supplier :SOLAR CO., LTD.

Address :1-7, Nunobiki-cho-2-chome, Chuo-ku, Kobe, Hyogo-Pref. 651-0097 JAPAN

Division :R & D DEPT.

Phone :+81-790-49-2366

FAX :+81-790-49-1588

Product code(MSDS NO) :EN870030-5

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### 2. Hazards Identification

GHS classification and label elements of the product

GHS classification

PHYSICAL HAZARDS

Organic peroxides : Type D

HEALTH HAZARDS

Eye damage /eye irritation : Category 2

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity-single exposure : Category 1

Specific target organ toxicity-repeated exposure : Category 1



Signal word : Danger

HAZARD STATEMENT

Heating may cause a fire

Causes eye irritation

Suspected of causing genetic defects

Suspected of causing cancer

Suspected of damaging fertility or the unborn child

Causes damage to organs after single exposure.

Causes damage to organs following repeated exposure.

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

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

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear face protection.

Use personal protective equipment as required.

Response

Get medical advice/attention if you feel unwell.

Specific treatment is required.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

## Storage

Store locked up.

## Disposal

Dispose of contents/container in accordance with local/national regulation.

## 3. Composition/Information on Ingredients

Substance/Preparation :Preparation

Ingredient name	content(%)	CAS No.	PRTR law No, Japan
Cyclohexanone peroxide	30 - 35	12262-58-7	
Amorphous silica	5 - 10	7631-86-9	
Pigment	Non Public	Non Public	
Ethyl acetoacetate	1 - 5	141-97-9	
Triethyl phosphate	30 - 35	78-40-0	
Dimethyl phthalate	15 - 20	131-11-3	
Cyclohexanone	1 - 5	108-94-1	
Hydrogen peroxide	<1.0	7722-84-1	
Water	1 - 5	7732-18-5	

## 4. First-Aid Measures

## IF INHALED

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If experiencing respiratory symptoms call a POISON CENTER or doctor/physician.

## IF ON SKIN

Never use solvent or thinner.

Wash with plenty of soap and water.

If you observe unusual symptom, have irritation/pain and/or feel unwell, seek medical advice.

## IF IN EYES :

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

## IF SWALLOWED

Rinse mouth.

Do NOT induce vomiting.

Immediately call a POISON CENTER or doctor/physician.

## 5. Fire-Fighting Measures

## Suitable extinguishing media

Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam.

## Specific fire-fighting measures

Use appointed fire extinguisher.

Remove flammable matters quickly from nearby.

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

## Special protective equipment and precautions for fire-fighters

Fire extinguishing work has to be done from windward.

Wear proper protective equipment.

## 6. Accidental Release Measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Keep unauthorized personnel away.

## Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

## Methods and materials for neutralization, containment and cleaning up

Place in a covered container.

Use non-sparking tools to collect absorbed material.

Keep substance wet for later disposal.

## Preventive measures for secondary accident

Prepare extinguishers before catching fire.

Keep substance wet using water spray.

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## 7. Handling and Storage

## Precautions for safe handling

## Preventive measures

Use personal protective equipment as required.

Take precautionary measures against static discharge.

## Safety Measures/Incompatibility

Handle in good ventilation.

Do not handle until all safety precautions have been read and understood.

## Conditions for safe storage, including any incompatibilities

## Recommendation for storage

Keep container tightly closed.

Protect from sunlight. Store in a well-ventilated place.

Storage temperature upper limit :35

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## 8. Exposure Control/Personal Protection

## Control value

(Cyclohexanone)

Japan control value (1995) <= 25ppm

## Adopted value

(Cyclohexanone)

JSOH(1970) 25ppm; 100mg/m<sup>3</sup>

(Cyclohexanone)

ACGIH(1990) TWA: 20ppm

STEL: 50ppm (Skin)(Eye & URT irr)

(Dimethyl phthalate)

ACGIH(2005) TWA: 5mg/m<sup>3</sup> (Eye & URT irr)

## Appropriate engineering controls

Do not use in areas without adequate ventilation.

Exhaust/ventilator should be available.

## Protective equipment

## Respiratory protection

Wear respiratory protection.

## Hand protection

Wear protective gloves.

## Eye protection

Wear eye/face protection.

## Skin and body protection

Wear protective gloves/clothing

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## 9. Physical and Chemical Properties

## Physical properties

Appearance :paste

Color :yellow

Self-Accelerating Decomposition Temperature/SADT :50

Flash point :>110 (Seta closed style)  
Auto-ignition temperature :>360  
Specific gravity :ca 1.20

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## 10. Stability and Reactivity

Possibility of hazardous reactions

May occur self-exothermic decomposition from heat or contamination.

Conditions to avoid

Avoid contact with acid, alkali, amine, heavy metal or reducing agent.

Avoid contact with combustibles (wood, paper, clothing, etc.).

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## 11. Toxicological Information

Symptoms related to the physical, chemical and toxicological characteristics

Acute toxicity

Oral toxicity component(s) data

(Cyclohexanone)

rat LD50 = 1544mg/kg (cal.)

Dermal toxicity component(s) data

(Cyclohexanone)

rabbit LD50 = 947mg/kg

Inhalation toxicity component(s) data

(Cyclohexanone)

vapor : rat LC50 = 2450ppm (ACGIH (2003))

Labor standard law, Japan; Toxic

Cyclohexanone

Irritant properties

Skin corrosion/Irritation component(s) data

(Cyclohexanone)

rabbit 500 mg open ; MILD

(Ethyl acetoacetate)

rabbit 510 mg open ; MILD

Serious eye damage /irritation

Eye damage/irritation component(s) data

(Cyclohexanone)

rabbit 4.74mg ; SEVERE

Mutagenic effects

(Cyclohexanone) ID764(2006), CERI hazard data book (2000)

Carcinogenic effects

(Cyclohexanone)

IARC-Gr.3 ; Not Classifiable as a Human Carcinogen.

(Amorphous silica)

IARC-Gr.3 ; Not Classifiable as a Human Carcinogen.

(Cyclohexanone)

ACGIH-A3(1990) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Toxicity for reproduction

(Cyclohexanone) ID764(2006), ACGIH (2003) et al

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Specific target organ toxicity (single exposure cat.1)

(Cyclohexanone) liver; spleen; CNS

Specific target organ toxicity (single exposure cat.2)

(Cyclohexanone) lung

Specific target organ toxicity (repeated exposure cat.1)

(Cyclohexanone) kidney; liver; CNS

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## 12. Ecological Information

### Ecotoxicity

#### Aquatic toxicity

(Cyclohexanone)

Fish (fat head minnow) LC50=527 mg/L/96hr (CERI hazard data book, 2000)

(Dimethyl phthalate)

Fish (Cyprinodon variegatus) LC50=29mg/L/96hr (EPA\_Japan, 2002)

#### Water solubility

(Cyclohexanone)

25 g/L (PHYSPROP Database, 2005)

(Dimethyl phthalate)

0.43 g/100 ml (20 C) (ICSC, 2005)

(Ethyl acetoacetate)

2.86 g/100 ml (20 C) (ICSC, 2000)

#### Persistence and degradability

(Dimethyl phthalate)

BOD\_Degradation : 93%(Registered chemicals safety check & review data, Japan)

#### Bioaccumulative potential

(Cyclohexanone)

log Pow=0.81 (ICSC, 2004)

(Dimethyl phthalate)

log Pow=1.6 (PHYSPROP Database, 2005)

(Ethyl acetoacetate)

log Pow=0.27 (ICSC, 2000)

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## 13. Disposal Considerations

### Waste residues

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

### Industrial disposals control law, Japan

Organic P contents > 1mg/L or Organic P extracts > 1mg/L

Triethyl phosphate

### Clean water act, Japan

life environment control, drainage =< 16mg-P/L (day ave. =< 8mg-P/L)

Triethyl phosphate

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## 14. Transport Information

### UN No, UN CLASS

UN No :3106

UN CLASS :5.2

Proper shipping name :ORGANIC PEROXIDE TYPE D, SOLID

### ERG GUIDE NO :146

### Sea pollutants control law

Noxious Liquid ; Cat. Y :Dimethyl phthalate

Noxious Liquid ; Cat. Z :Cyclohexanone; Ethyl acetoacetate; Triethyl phosphate

### Special precautions in connection with transport or conveyance

Follow instruction in Handling & Storage.

Avoid temperature above :35

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## 15. Regulatory Information

### Industrial Safety and Health law, Japan

Harmful substances to be indicated :Cyclohexanone

Chemical name et al should be informed :Cyclohexanone;Amorphous silica;

Dimethyl phthalate

Fire protection law, Japan

Self-reactive substances : organic peroxides ; (limited qty) Gr.2/100kg

Ship cargo control law, Japan

Organic peroxides

Air cargo control law, Japan

Organic peroxides

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#### 16. Other Information/References

##### Reference Book

Recommendations on the TRANSPORT OF DANGEROUS GOODS 16th edit. UN

2008 EMERGENCY RESPONSE GUIDEBOOK(US DOT)

2011 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/monoeval/grlist.html>

Supplier's SDS

##### Other information

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own test