



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Safety Data Sheet

Butanox HBO-50

Poly Klear
FIBERGLASS + RESIN

1. IDENTIFICATION OF THE SUBSTANCE OR PREPARATION

Product label name

Butanox HBO-50 - Methyl ethyl ketone peroxide, solution in dimethyl phthalate

Distributor Name & Address

SEA Olympus Marketing Inc.
SEA Olympus Bldg., A.C Cortez Ave.
Mandaue City, Cebu
Philippines 6014

Distributor Contact Details

(032) 346-7137

Emergency telephone

(032) 346-7137
SEA Olympus Marketing Inc.

Intended use

Curing agent.

Date of last issue / Revision

2005/08/29 / 3.39

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation in conformance to EC directives.

Information on hazardous ingredients

Chemical description

Methyl ethyl ketone peroxide, solution in dimethyl phthalate

Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name
1	30 - 37	001338-23-4	Methyl ethyl ketone peroxide
2	45 - 60	000131-11-3	Dimethyl phthalate
3	5	000078-93-3	Methyl ethyl ketone
4	5	000111-46-6	Diethylene glycol

	Annex-1 number	EC-number	Symbol(s)	Risk-phrase(s)
1		215-661-2	C E	R02 R07 R22 R34
2		205-011-6		none
3	606-002-00-3	201-159-0	F Xi	R11 R36 R66 R67
4	603-140-00-6	203-872-2	Xn	R22

Other information

Balance: non-hazardous ingredients

3. HAZARDS IDENTIFICATION

May cause fire. Harmful if swallowed. Causes burns.

4. FIRST AID MEASURES

Symptoms and effects

Harmful if swallowed. Causes burns. Causes injury to the cornea and eyelids. Risk of serious damage to eyes.

First aid

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortez Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.

OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN**Poly Klear**
FIBERGLASS + RESIN**General**

Call a physician immediately.

Inhalation

Move to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Remove contaminated clothing. Always seek medical attention.

Skin

Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Always seek medical advice. Launder clothes before reuse.

Eye

Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.

Ingestion

Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately !

Advice to physician

Symptomatic treatment is advised.

5. FIRE-FIGHTING MEASURES**Extinguishing media**

Carbon dioxide, dry chemical powder, dry sand, water, foam.

Unsuitable extinguishing media

halones.

Hazardous decomposition/ combustion products

Carbon dioxide, Water, Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone

Protective equipment

Wear suitable protective clothing. Wear self contained breathing apparatus.

Other information

Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. Cool closed containers with water.

Fire and explosion hazard

CAUTION: reignition may occur. Decomposition under effect of heating. If involved in a fire, it will support combustion. In case of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Do not breathe fumes/vapour. Avoid contact with skin and eyes. For personal protection see Section 8.

Environmental precautions

Do not allow to enter drains or water courses.

Methods for cleaning up

Collect as much as possible in a clean container for (preferable) reuse or disposal. Cover the remainder with inert absorbent (e.g. vermiculite) for disposal. Keep contents moist. The waste should NOT be confined.

Other information

CAUTION: reignition may occur.

7. HANDLING AND STORAGE**Handling**

Never weigh out in the storage room. When using do not eat, drink or smoke. Do not pipet by mouth. Do not breathe fumes/vapour. Handle in well ventilated areas. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps). Keep product and emptied container away from heat and sources of ignition. Confinement must be avoided. Avoid shock and friction. Avoid contact with skin and eyes.

LUZON:**REGIONAL OFFICE
TAGUIG**1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708**VISAYAS:****HEADQUARTERS
CEBU**2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817**MINDANAO:****REGIONAL OFFICE
DAVAO**Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN

Fire and explosion prevention

Use explosion protected equipment. Keep away from sources of ignition - No smoking.

Storage requirements

Store in accordance with local/national regulations. Keep away from food, drink and animal feedings. Store in a dry well ventilated place away from sources of heat and direct sunlight. Keep only in the original container. Keep container upright to prevent leakage.

Storage

For maximum quality store below: 25 °C.

Other information

It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded. Wash hands thoroughly after handling or contact. Keep working clothing separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ensure good ventilation and local exhaustion of the working area. Explosion proof ventilation recommended.

Personal protection

Respiratory

In case of insufficient ventilation wear suitable respiratory equipment (respirator with Filter AX).

Hand

Wear suitable protective gloves of neoprene or synthetic rubber.

Eye

Wear eye/face protection.

Skin and body

Wear suitable protective clothing.

Other information

Laundry clothes before reuse.

Methyl ethyl ketone peroxide

Short Term Exposure Limit (STEL)	1.5 mg/m ³
----------------------------------	-----------------------

Dimethyl phthalate

Short Term Exposure Limit (STEL)	10 mg/m ³
----------------------------------	----------------------

Time Weighted Average (TWA)	5 mg/m ³
-----------------------------	---------------------

Methyl ethyl ketone

skin	Can be absorbed through skin.
------	-------------------------------

Short Term Exposure Limit (STEL)	899 mg/m ³
----------------------------------	-----------------------

Time Weighted Average (TWA)	600 mg/m ³
-----------------------------	-----------------------

Diethylene glycol

Time Weighted Average (TWA)	101 mg/m ³
-----------------------------	-----------------------

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour

liquid
clear and colourless odour:
faint

Boiling point/range

Do not distill (Decomposes)

Melting point/range

turbid < -10 °C

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN

Poly Klear
FIBERGLASS + RESIN

Flash point Above the SADT value
Flammability not determined
Explosive properties no
Oxidizing properties not applicable
Vapour pressure not determined
Density 1180 kg/m ³ (20 °C)
Bulk density not applicable
Solubility in water Partly miscible with water.
Solubility in other solvents phthalates
pH value weak acid
Partition coefficient n-octanol/water not determined
Relative vapour density (air=1) not determined
Viscosity approx. 16 mPa.s (20 °C)
Active oxygen content 9.8-10.0 %
Peroxide content 33 %
Autoignition temperature Test method not applicable. (See Section 7)
SADT 60 °C. See also Section 10.
Explosion limits not applicable
Specific conductivity not determined

10. STABILITY AND REACTIVITY

Stability
SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the following temperature: 60 °C. Contact with incompatible substances can cause decomposition at or below the SADT 60 °C.
Conditions to avoid
To maintain quality store in original closed container below: 25 °C.

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel.#: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel.#: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN

Avoid shock and friction. Confinement must be avoided.

Incompatibles

Avoid contact with rust, iron and copper. Contact with incompatible materials such as acids, alkalies, heavy metals and reducing agents will result in hazardous decomposition. Do not mix with peroxide accelerators. Use only Stainless steel 316, PVC, polyethylene or glass-lined equipment.

Decomposition

Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone

Other information

Emergency procedures will vary depending on conditions. The customer must have an emergency response plan in place. Contact Akzo Nobel for assistance with developing an emergency response plan.

11. TOXICOLOGICAL INFORMATION

Methyl ethyl ketone peroxide, 40 % in Dimethyl phthalate

Acute toxicity

Oral LD50

rat: 1017 mg/kg

Dermal LD50

rat: 4000 mg/kg

Inhalation LC50

rat: 17 mg/l ; 4 hours exposure time

Irritation

Skin

Corrosive

Eye

Corrosive

Sensitization

Not sensitizing

Genotoxicity

Ames test: Not mutagenic

Dimethyl phthalate

Acute toxicity

Oral LD50

rat: >2400 mg/kg

Dermal LD50

rabbit: >10.000 mg/kg

Inhalation LC50

9300 mg/m³ (6.5 hours)

Irritation

Skin

Mildly irritating

Eye

Minimally irritating

Methyl ethyl ketone

Acute toxicity

Oral LD50

rat: 2737 mg/kg

Dermal LD50

rabbit 6480 mg/kg

LUZON:

REGIONAL OFFICE
TAGUIG

1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU

2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO

Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN

Poly Klear
FIBERGLASS + RESIN

Inhalation LC50 rat 23.5000 mg/m ³
Irritation
Skin Moderately irritating
Eye Moderately irritating
Diethylene glycol
Acute toxicity
Oral LD50 Harmful if swallowed.
Other toxicological information The mandatory EC labelling has been followed.

12. ECOLOGICAL INFORMATION

Methyl ethyl ketone peroxide, 40 % in Dimethyl phthalate
Ecotoxicity
fish Acute toxicity, 96h-LC50 = 44.2 mg/l. (Poecilia reticulata.)
bacteria Activated sludge respiration inhibition test EC50 = 48.0 mg/l.
Fate
Degradation Biotic Readily biodegradable (Closed bottle test).
Dimethyl phthalate
Ecotoxicity
fish Lepomis macrochirus: 96h-LC50: 420 ppm
algae Selenastrum capricornutum: 39.8 mg/l (96h-LC50)
Fate
Degradation Biotic Readily biodegradable.
Other information Bio Concentration Factor (BCF) fish 5.4 (24 hours)
Methyl ethyl ketone
Ecotoxicity
fish Lepomis macrochirus: 96h-LC50: 3.22 g/l
Fate
Degradation Biotic Readily biodegradable.
Other information Naturally occurring substance

13. DISPOSAL CONSIDERATIONS

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.

OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN**Poly Klear**
FIBERGLASS + RESIN

Product
Waste disposal in accordance with regulations (most probably controlled incineration).
Contaminated packaging
According to local regulations.
Other information
For further advice contact manufacturer.

14. TRANSPORT INFORMATION

<i>Land transport (ADR/ RID) and / or DOT</i>
Class
5.2
Classification Code
P1
RID class
5.2
Substance Identification No.
3105
TREM-Card or ERG Number
CEFIC TEC(R)- 52GP1-L
UN number
3105
Proper Shipping Name
ORGANIC PEROXIDE TYPE D, LIQUID; (Methyl ethyl ketone peroxide.)
Required labels
5.2

<i>Sea transport (IMDG-code/ IMO)</i>
Class
5.2
UN number
3105
EMS
F-J, S-R
Marine pollutant
no
Proper Shipping Name
Organic peroxide type d, liquid; (Methyl ethyl ketone peroxide (s))
Other information
Label(s); 5.2

<i>Air transport (ICAO-TI/ IATA-DGR)</i>
UN number
3105
Class
5.2
Proper Shipping Name
Organic peroxide typed, liquid; (Methyl ethyl ketone peroxide (s))

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel.#: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel.#: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN

Poly Klear
FIBERGLASS + RESIN

Other information

Label(s); 5.2

15. REGULATORY INFORMATION

Product label name

Methyl ethyl ketone peroxide, solution in dimethyl phthalate

Labelling according to EC directives

EC-number

not applicable

R(isk) phrase(s)

Code	Description
R07.	May cause fire.
R22.	Harmful if swallowed.
R34.	Causes burns.

S(afety) phrase(s)

Code	Description
S03/07.	Keep container tightly closed in a cool place.
S14B.	Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).
S36/37/39.	Wear suitable protective clothing, gloves and eye/face protection.
S45.	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S50D.	Do not mix with peroxide-accelerators or reducing agents.

Symbol(s)

CORROSIVE	OXIDIZING

Other information

Substance and/or product listed in Directive 96/82/EC.

German Water Hazard Class (WGK)

1 (VwVwS Anhang 4 Nr. 3)

16. OTHER INFORMATION

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.

OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear®

FIBERGLASS + RESIN

R-pharse information		
Chemical name	R(isk) phrase(s)	
Methyl ethyl ketone peroxide	R02 R07 R22 R34	Risk of explosion by shock, friction, fire or other sources of ignition May cause fire Harmful if swallowed Causes burns
Dimethyl phthalate	none	none
Methyl ethyl ketone	R11 R36 R66 R67	Highly flammable Irritating to eyes Repeated exposure may cause skin dryness or cracking Vapours may cause drowsiness and dizziness
Diethylene glycol	R22	Harmful if swallowed

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Poly Klear®

The data and information contained in this Material Safety Data Sheet is provided to the best of our knowledge and ability on existing hazards, properties and handling of this product as recommended. It is recommended that the user tests the product according to its purpose. The user is responsible for the proper, safe and lawful use of this product. The information contained in this MSDS is subject to change without further notice. © 20

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.
OLYMPUS
Marketing, Inc.

www.olympus.com.ph

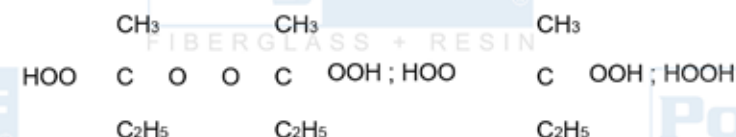
Poly Klear®
FIBERGLASS + RESIN

TECHNICAL DATA SHEET

Butanox HBO -50

Product description

Butanox HBO-50 - Methyl ethyl ketone peroxide, solution in dime



Peroxide content

: 33%

Balance

: 59% DMP, 8% MEK +
diethylene glycol + water

CAS No.

: 1338-23-4; 131-11-3;
78-93-3

Einecs

: 2156612; 2050116;

TSCA

: 2011590
: registered

Specification

Appearance

: clear and colorless liquid

Total active Oxygen

: 9.8-10.0%

Physical properties

Density, 20°C

: 1180 kg/m³

Viscosity, 20°C

: 19 mPa.s

Safety characteristics

Flash point

: above the SADT *

SADT

: 60°C

Auto ignition temperature

: 281°C

Solubility

Insoluble in water. Soluble in phthalates.

Hazardous reactions

Oxidizing agent. Decomposes violently under the influence of heat or by contact with reducing agents. Never mix with accelerators.

Major decomposition products

Carbon dioxide, water, acetic acid, formic acid, propionic acid, methyl ethyl ketone.

Toxicological Data

LD 50, acute oral (rat)

: 1017 mg/kg (MEKP-40%)

LD 50, acute inhalation (rat)

: 17 mg/l (4 hours exposure)
(MEKP-40%)

Primary skin irritation

: Corrosive (MEKP-33%)

Eye irritation

: Severely irritating/corrosive
(MEKP-33%)

Ames test

: Not mutagenic

Packaging

Standard packaging size for Butanox HBO-50 is 30 kg net.
Smaller packaging size available on request.

* SADT = Self Accelerating Decomposition Temperature

LUZON:

REGIONAL OFFICE
TAGUIG

1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel.#: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU

2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel.#: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO

Unit A16 J.King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.

OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear
FIBERGLASS + RESIN**Poly Klear**
FIBERGLASS + RESIN**Poly Klear****Applications**

Butanox HBO-50 is a methyl ethyl ketone peroxide (MEKP) for the curing of unsaturated polyester resins in the presence of a cobalt accelerator at room and elevated temperatures.

The curing system Butanox HBO-50/cobalt accelerator is particularly suitable for the curing of laminating resins and lacquers when a faster gelation and initial cure speed is required than can be obtained with Butanox M-50. Moreover the manufacture of light resistant parts may be possible contrary to the curing benzoyl peroxide/amine accelerator.

For room temperature application it is necessary to use Butanox HBO-50 together with a cobalt accelerator (e.g. Accelerator NL-49P).

Dosage

Depending on working conditions, the following peroxide and accelerator dosage levels are recommended:

Butanox HBO-50	1 - 4 phr
Accelerator NL-49P	0.5 - 3 phr

Cure Characteristics

In a high reactive standard orthophthalic resin in combination with Accelerator NL-49P (= 1% cobalt) the following application characteristics were determined:

Gel times at 20°C

2 phr Butanox HBO-50 + 0.5 phr Acc. NL-49P	6 minutes
2 phr Butanox M-50+ 0.5 phr Acc. NL-49P	12 minutes

2 phr Butanox HBO-50 + 1.0 phr Acc. NL-49P	4 minutes
2 phr Butanox M-50+ 1.0 phr Acc. NL-49P	7 minutes

Cure of 1 mm pure resin layer at 20°C

The speed of cure is expressed as the time to reach a Persoz hardness of respectively 30, 60 and 120 s.

Persoz: 3060120 s

2 phr Butanox HBO-50 + 0.5 phr Acc. NL-49P	1.6	3.0	10	h
2 phr Butanox M-50+ 0.5 phr Acc. NL-49P	2.4	4.1	13	h
2 phr Butanox HBO-50 + 1.0 phr Acc. NL-49P	0.8	2.3	8.2	h
2 phr Butanox M-50+ 1.0 phr Acc. NL-49P	1.7	3.0	9.5	h

Poly Klear
FIBERGLASS + RESIN**Poly Klear**
FIBERGLASS + RESIN**Poly Klear**
FIBERGLASS + RESIN**LUZON:**

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J. King Warehouse Complex
Km.3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.

OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear®
FIBERGLASS + RESIN**Poly Klear®**
FIBERGLASS + RESIN**Poly Klear®****Cure of 4 mm laminates at 20°C**

FIBERGLASS + RESIN

4 mm laminates have been made with a 450 g/m² chopped strand mat. The glass content in the laminates is 30% (w/w).

The following parameters were determined:

- Time-temperature curve.
- Speed of cure expressed as the time to achieve a Barcol hardness (934-1) of 0-5 and 25-30 respectively.
- Residual styrene content after 24 h at 20°C and a subsequent postcure of 8 h at 80°C.

Poly Klear®

FIBERGLASS + RESIN

2 phr Butanox HBO-50 + 0.5 phr Acc. NL-49P
2 phr Butanox M-50+ 0.5 phr Acc. NL-49P2 phr Butanox HBO-50 + 1.0 phr Acc. NL-49P
2 phr Butanox M-50+ 1.0 phr Acc. NL-49P**Poly Klear®**

FIBERGLASS + RESIN

2 phr Butanox HBO-50 + 0.5 phr Acc. NL-49P
2 phr Butanox M-50+ 0.5 phr Acc. NL-49P2 phr Butanox HBO-50 + 1.0 phr Acc. NL-49P
2 phr Butanox M-50+ 1.0 phr Acc. NL-49P**Poly Klear®**

FIBERGLASS + RESIN

Pot life at 20°C

Pot lives were determined of a mixture of Butanox HBO-50 and a non-preaccelerated UP resin at 20°C.

2 phr Butanox HBO-50
4 phr Butanox HBO-50**Poly Klear®**

FIBERGLASS + RESIN

Butanox is a registered trademark of Akzo Nobel Chemicals bv.

Poly Klear®
FIBERGLASS + RESIN**Poly Klear®**

FIBERGLASS + RESIN

Poly Klear®

FIBERGLASS + RESIN

Gel time min.	Time to Peak min.	Peak exotherm °C
8	26	58
13	36	44
4	18	79
8	26	64

Barcol 0-5	25-30	Res. styrene 24 h + 8 h 20°C 80°C %
<1	12	5.8
3	15	6
<1	1	4.7
		5

h	h	0.3	0.3
---	---	-----	-----

1	0.1	0.1
---	-----	-----

FIBERGLASS + RESIN

18 h
10 h**Poly Klear®**

FIBERGLASS + RESIN

LUZON:REGIONAL OFFICE
TAGUIG1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708**VISAYAS:**HEADQUARTERS
CEBU2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817**MINDANAO:**REGIONAL OFFICE
DAVAOUnit A16 J. King Warehouse Complex
Km. 3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph



S.E.A.

OLYMPUS
Marketing, Inc.

www.olympus.com.ph

Poly Klear[®]

FIBERGLASS + RESIN

Poly Klear[®]
FIBERGLASS + RESIN

Poly Klear[®]
FIBERGLASS + RESIN

Poly Klear[®]

Protective equipment and handling instructions

Recommended Handling Procedures and First Aid

- Use safety goggles or face shield and gloves.
- Extra ventilation recommended.
- Use clean equipment and tools of inert material, such as stainless steel, polyethylene, glass.
- All equipment should be earthed.
- Do not pipet by mouth.
- Avoid contact with rust.
- Never bring peroxide into direct contact with accelerators.
- Never weigh out in the storage room.

Poly Klear[®]

Poly Klear[®]

Storage conditions

Keep container tightly closed in a well-ventilated place. Temperature max. +25°C. Keep away from reducing agents e.g. amines, acids, alkalis, heavy metal compounds (e.g. accelerators, driers, metal soaps). Never weigh out in the storage room.

Storage stability

Only when stored under these recommended storage conditions, the product will remain within the Akzo Nobel specifications for a period of at least three months after delivery.

Fire fighting

Extinguish a small fire with powder or carbon dioxide; then apply water to prevent re-ignition. Extinguish a big fire with large amounts of water, applied from a safe distance.

Spillage

Mix with e.g. vermiculite. Sweep up with dustpan and brush of inert material, flush the remainder with water. Remove the waste to a safe place. The waste should NOT be confined.

Disposal

According to local regulations.

Spillage on clothes

Remove contaminated clothes. Examine skin. If skin contact, wash or shower; apply a lanolin-based ointment. Launder clothes normally.

Eye contact

Rinse with plenty of water for at least 15 minutes. Seek medical advice.

Skin contact

Wash with plenty of water (and soap) or shower, afterwards apply a lanolin-based ointment. Seek medical advice.

Ingestion

Rinse mouth. Give water to drink. Seek medical advice. Do NOT induce vomiting.

Inhalation

Move to fresh air, rest, half-upright position. Loosen clothing. Seek medical advice.

For more detailed information reference can be made to the SDS of this product.

Poly Klear[®]

Poly Klear[®]

The information presented herein is true and accurate to the best of our current knowledge, but without any guarantee unless explicitly given. Since the conditions of use are beyond our control we disclaim any liability, including for patent infringement, incurred in connection with the use of these products, data or suggestions. The user may forward, distribute, and/or photocopy this document only if unaltered and complete, including all of its headers, footers, disclaimer, and other information. You may not copy this document to a website.

LUZON:

REGIONAL OFFICE
TAGUIG
1st Avenue, Sta. Maria Industrial Subd,
Bagumbayan, Taguig City
Tel. #: (02) 506-8519 ; 837-0710
837-0708

VISAYAS:

HEADQUARTERS
CEBU
2F SEA Olympus Building, AC Cortes Ave.
Trunkline #: (032) 421-7777
Tel. #: (032) 346-7137 ; 421-7800 to 06
421-7817 to 18 ; 421-7823
Fax #: (032) 421-7789 ; 346-1817

MINDANAO:

REGIONAL OFFICE
DAVAO
Unit A16 J. King Warehouse Complex
Km. 3 Maa Road, Davao City 8000
Telefax #: (082) 244-1206 ; 302-2711

✉ inquiry@olympus.com.ph