



SDS: 0063610
Date Prepared: 06-Apr-2023

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BUTANOX M-50
Product Description: Methyl Ethyl Ketone Peroxide in plasticiser (Dimethyl phthalate)
Intended/Recommended Use: Curing agent
Uses advised against: Not available
Substance or Mixture?: Mixture

Allnex Belgium SA/NV, Anderlechtstraat, 33, 1620 Drogenbos, BE.

For Product and all Non-Emergency Information call your local Allnex contact point or contact us at <http://www.allnex.com/contact>

Local Contact Information:

Allnex (Thailand) Ltd., 127/32 Panjathani Tower, 27th Floor, Nonsee Road, Chongnonsee, Yannawa, Bangkok 10120, Thailand; Telephone: +66-2-296-9100

Allnex Malaysia Sdn. Bhd., PT 12701 Tuanku Jaafar Industrial Park, 71450 Seremban, Negeri Sembilan, Malaysia; Telephone: +60-6-676 3333

Nuplex Resins (Vietnam) Pty. Ltd. No. 1, 9A Street, Bien Hoa Industrial Zone 2, Bien Hoa City, Dong Nai Province, Vietnam; Telephone: +84 0251 3 836503

Allnex Resins (China) Co., Ltd. 127 Tai Shan Road, Suzhou New District Suzhou, Jiangsu Province P.R.C. 215129
Telephone: +86 512 6665 5355

Allnex Taiwan Ltd., 6F, No. 380, Sec. 1, Fuhsing South Road, Taipei 106, Taiwan, R.O.C.; Telephone: +886-2-27053969

Allnex Korea Co. Ltd., 4F, Daechi-Dong, 434 Samseong-ro, Gangnam-gu, Seoul, Republic of Korea 06178; Telephone: +82 2 2038 8345

Allnex Resins India Private Limited, 10th Floor, Jaswanti Landmark, Mehra Industrial Estate, L.B.S. Marg, Vikhroli (W), Mumbai 400079 (India); Telephone: +91 22 6148 7000

PT Allnex Resins Indonesia, JL. Rungkut Industri II No. 47, Surabaya 60293, Indonesia; Telephone: +62 31 8420 391

Allnex Malaysia Sdn. Bhd., Lot 7, Tangga Batu Industrial Estate, 9½ Miles, Tanjung Keling, 76400 Melaka, Malaysia; Telephone: +60-6-3516 888 / +60-6-3517 888; Fax: +60-6-3518 878

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)

Indonesia: 007 803 011 0293 (Carechem 24)

Malaysia: +60 3 6207 4347 (Carechem 24)

Philippines: +63 2 231 2149 (Carechem 24)

Taiwan: +886 2 8793 3212 (Carechem 24)

Vietnam: +84 8 4458 2388 (Carechem 24)

All Others: +65 3158 1074 (Carechem 24)

See Section 16 for Emergency phone numbers for other regions.

2. HAZARDS IDENTIFICATION

Additional GHS classification or other information may be included in this section but has not been adopted by other national authorities.

GHS Classification

Organic Peroxides - Type D
Acute Toxicity (Oral) Hazard Category 4
Acute Toxicity (Inhalation) Hazard Category 4
Skin Corrosion / Irritation Hazard Category 1B
Serious Eye Damage / Eye Irritation Hazard Category 1
Aquatic Environment Acute Hazard Category 2

GHS Labeling



Signal Word

DANGER

Hazard Statements

Heating may cause a fire
Harmful if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
Toxic to aquatic life

Precautionary Statements

Prevention

Keep away from heat, sparks and open flame. - No smoking. Keep away from clothing and other combustible materials. Keep only in the original container. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Avoid release to the environment. Do not breathe vapors or spray mist.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Specific treatment - refer to first aid instructions on safety data sheet. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

Store at temperatures not exceeding 25 °C/ 77 °F. Keep cool. Protect from sunlight. Store away from other materials. Store locked up.

Disposal

Dispose of contents/container in accordance with local and national regulations.

OTHER HAZARDS

Hazardous decomposition with generation of gas and self-heating may occur from exposure to excessive heat, contamination or direct sunlight.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

Component / CAS No.	%
Dimethyl phthalate 131-11-3	55 - 70
Methyl ethyl ketone peroxides (MEKP) 1338-23-4	33 - 37
2-Butanone (Methyl ethyl ketone) 78-93-3	1 - 5

The balance of the ingredients in this product is proprietary, non-hazardous and/or not required to be listed.

Additional GHS classification or other information may be included in this section but has not been adopted by other national authorities.

4. FIRST-AID MEASURES

Symptoms and Signs of Poisoning:

Burning sensation.

Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

Skin Contact:

Remove contaminated clothing and shoes without delay. Wear impermeable gloves. Wash immediately with plenty of water. Pay particular attention to skin crevices, nail folds, etc. Do not reuse contaminated clothing without laundering. Do not reuse contaminated leatherware. Obtain medical attention.

Ingestion:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Apply artificial respiration if patient is not breathing. Obtain medical attention immediately.

Notes To Physician:

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Use water spray or fog, carbon dioxide or dry chemical.

Unsuitable Extinguishing Media:

full water jet.

Protective Equipment:

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See SDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:

Keep containers cool by spraying with water if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8, wear a two piece PVC suit with hood or PVC overalls with hood.

Methods For Containment:

Prevent further leakage or spillage if safe to do so. Stop leak if safe to do so.

Methods For Cleaning Up:

Cover spills with some inert absorbent. Sweep up into containers for disposal. Flush spill area with water.

Environmental Precautions:

None known.

References to other sections:

See Sections 7, 8 and 13 for additional information.

7. HANDLING AND STORAGE

Handling

Precautions: Keep away from heat, sparks and open flame. - No smoking. Keep away from clothing and other combustible materials. Keep only in the original container. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Avoid release to the environment. Do not breathe vapors or spray mist.

Special Handling Statements: Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes without delay. Use only with adequate ventilation. Handle in accordance with good industrial hygiene and safety practices. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Take off contaminated clothing and wash it before reuse.

Storage

Keep storage area well ventilated. Store at temperatures not exceeding 25 °C/ 77 °F. Keep container tightly closed and dry in a cool, well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of reach of children. Protect from moisture. Store locked up. Store separately.

Storage Temperature: Store at < 35 °C

Reason: Higher storage temperature reduces shelf life and also increases risk of hazardous polymerization.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit(s)

Dimethyl phthalate 131-11-3

Malaysia OEL:	5 mg/m ³	(TWA)
New Zealand:	5 mg/m ³	(TWA)
Indonesia OEL:	5 mg/m ³	(TWA)
Philippines OEL:	5 mg/m ³	(TWA)
Taiwan OEL:	5 mg/m ³	(TWA)
	10 mg/m ³	(STEL)
ACGIH (TLV):	5 mg/m ³	(TWA)

Methyl ethyl ketone peroxides (MEKP) 1338-23-4

Malaysia OEL:	0.2 ppm	(Ceiling)
	1.5 mg/m ³	(Ceiling)
Thailand OEL:	0.2 ppm	(Ceiling)
New Zealand:	0.2 ppm	(Ceiling)
	1.5 mg/m ³	(Ceiling)
Indonesia OEL:	0.2 ppm	(Ceiling)
Taiwan OEL:	0.2 ppm	(Ceiling)
	1.5 mg/m ³	(Ceiling)
ACGIH (TLV):	0.2 ppm	(Ceiling)

2-Butanone (Methyl ethyl ketone) 78-93-3

Malaysia OEL:	200 ppm	(TWA)
	590 mg/m ³	(TWA)
Thailand OEL:	200 ppm	(TWA)
New Zealand:	150 ppm	(TWA)
	445 mg/m ³	(TWA)
	300 ppm	(STEL)
	890 mg/m ³	(STEL)
Indonesia OEL:	200 ppm	(TWA)
	300 mg/m ³	regulated under 2-Butanone (TWA)
	300 ppm	(STEL)
Philippines OEL:	200 ppm	(TWA)
	590 mg/m ³	(TWA)
Taiwan OEL:	200 ppm	(TWA)
	590 mg/m ³	(TWA)
	250 ppm	(STEL)
	737.5 mg/m ³	(STEL)
Vietnam OEL:	150 mg/m ³	(TWA)
	300 mg/m ³	(STEL)
ACGIH (TLV):	300 ppm	(STEL)
	200 ppm	(TWA)

Engineering Measures:

Ensure adequate ventilation, especially in confined areas.

Respiratory Protection:

Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. Where exposures are below the established exposure limit, no respiratory protection is required.

Eye protection:

Tight sealing safety goggles.

Skin Protection:

Gloves made of plastic or rubber. Wear suitable protective clothing.

Hand protection:

Wear protective gloves. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

Additional Advice:

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	clear liquid
Colour:	colourless
Odor:	faint slight
Odor Threshold:	See Section 8 for exposure limits.
Melting Point:	< -10 °C
Boiling Point:	Not applicable
Flammability:	Not available
Flammable Limits (% By Vol):	Not available
Flash point:	No flash point up to SADT
Autoignition temperature:	218 °C Not applicable
Decomposition Temperature:	60 °C Self-accelerating decomposition temperature (SADT)
pH:	< 7 weakly acidic
Viscosity (Kinematic):	21 mm ² /s
Viscosity (Dynamic):	25 mPa.s @ 20 °C DIN EN ISO 3219
Solubility In Water:	Partly soluble Miscible
Partition coefficient (n-octanol/water):	Not available
Vapor Pressure:	1 hPa @ 84 °C Not available
Specific Gravity/Density:	1.17 g/cm ³ @ 25 °C
Vapour density:	Not available
Particle characteristics:	Not applicable
Evaporation Rate:	Not available
Oxidizing Properties:	Not available

OTHER INFORMATION

Fat Solubility (Solvent-Oil):	Not available
Percent Volatile (% by wt.):	Not available
Solids Content:	Not available
Saturation In Air (% By Vol.):	Not available
Acid Number (mg KOH/g):	Not available
Hydroxyl Value (mg KOH/g):	Not available
Volatile Organic Content (1999/13/EC):	Not available

10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability:	Organic Peroxide. MAY CAUSE FIRE.
Conditions To Avoid:	Protect from heat and direct sunlight.
Polymerization:	Will not occur
Conditions To Avoid:	None known
Materials To Avoid:	Reactions with peroxides and other radical components. Reactions with reducing agents. Reacts with heavy metals. Avoid contact with acids and alkali's. Organic material Combustible material hydrocarbons Strong acids Strong bases Strong oxidizing agents.
Hazardous Decomposition Products:	Formic Acid Acetic acid Self-accelerating decomposition may occur if the specific control temperature is not maintained methyl ethyl ketone peroxide

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin, Eyes, Oral.

HEALTH HAZARD INFORMATION

Acute toxicity - oral: Harmful if swallowed.

Acute toxicity - dermal: Not Classified.

Acute toxicity - inhalation: Harmful if inhaled.

Skin corrosion / irritation: Causes severe skin burns and eye damage.

Serious eye damage / eye irritation: Causes serious eye damage.

Respiratory sensitization: Not Classified.

Skin sensitization: Not Classified.

Carcinogenicity: Not Classified.

Germ cell mutagenicity: Not Classified.

Reproductive toxicity: Not Classified.

Specific target organ toxicity (single exposure): Not Classified.

Specific target organ toxicity (repeated exposure): Not Classified.

Aspiration hazard: Not Classified.

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50	1070 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	1.5 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	Corrosive
Acute Irritation	eye	Causes serious damage

ALLERGIC SENSITIZATION

Sensitization	Skin	No data
Sensitization	respiratory	No data

GENOTOXICITY**Assays for Gene Mutations**

Ames Salmonella Assay	No data
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Chronic toxicity**OTHER INFORMATION**

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

The oral LD50 (rat) and dermal LD50 (rabbit) values for dimethyl phthalate are 6.9 g/kg and 10 ml/kg, respectively. Dimethyl phthalate did not produce skin irritation or sensitization. The acute toxicity of dimethyl phthalate by inhalation is low.

Methyl-ethylketone peroxide was tested for acute toxicity by oral, inhalation and dermal application. The oral LD50 (rat) was 1017 mg/kg bw. The inhalation LC50 (rat, vapour, 4h) was 17 mg/L. The dermal LD50 (rabbit) was 4000 mg/kg bw. Methyl-ethylketone peroxide is considered as a corrosive substance for skin and eye. No allergic reactions are to be expected upon dermal exposure. No target organ toxicity was observed in a 90days repeated dose toxicity study via the oral route up to the highest dose. The substance is not considered to be classified for genetic toxicity. Teratogenicity or adverse effects on reproductive performances were not observed in animal studies. Carcinogenicity has not been investigated so far.

2-Butanone (MEK) has acute oral (rat) and dermal (rabbit) LD50 values of 2700 mg/kg and 6500 mg/kg, respectively. The acute inhalation (rat) LC50 following a 2-hour exposure is 4000 ppm (8.3 mg/L/4hr). Acute exposure to 2-Butanone (MEK) vapor may cause eye and respiratory tract irritation, central nervous system depression, headache, nausea, dizziness and staggered gait. 2-Butanone (MEK) causes moderate to severe eye and mild to moderate skin irritation upon contact. Chronic exposure to 2-Butanone (MEK) vapor may cause central nervous system depression and sleepiness. In a teratogenicity study, pregnant rats inhaled 0, 400, 1000, or 3000 ppm 2-Butanone for 7 hr/day on days 6 through 15 of gestation. Exposure at these levels did not cause any serious birth defects. A few minor malformations were observed at 3000 ppm. At this level, maternal toxicity, evidenced by decreased weight gain and water intake, was observed. In another teratogenicity study, minor malformations were also observed, however, no signs of maternal toxicity were noted. MEK is reported to have shown positive results in a screening test for mutagenicity using the *S. cerevisiae* strain of yeast. Absorption of a high dose of MEK caused death in laboratory animals. Human ingestion of MEK has caused central nervous system effects and aspiration has caused sudden death in laboratory animal tests.

12. ECOLOGICAL INFORMATION

Overall Environmental Toxicity: Toxic to aquatic life.

The ecological assessment for this material is based on an evaluation of its components.

ECOTOXICITY

Species: Guppy (*Poecilia reticulata*)
44.2 mg/l LC50

BACTERIA TEST RESULTS

Test: Respiration Inhibition (OECD 209)

Species: Activated Sludge - Bacterial
48 mg/l EC50

BIOACCUMULATIVE POTENTIAL

Not available

PERSISTENCE AND DEGRADABILITY

Not available

DEGRADATION

Test: Closed Bottle (OECD 301D)
Readily Biodegradable

MOBILITY IN SOIL

Not available

OTHER ADVERSE EFFECTS

HAZARD TO THE OZONE LAYER

Not available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

The company encourages the recycle and reuse of products and packaging, where possible and permitted.

Product disposal

When recycle or reuse is not possible, the company recommends that our products, especially when classified as hazardous, be disposed of at approved facilities. All local and national regulations should be followed.

Packaging disposal

Handle contaminated packages in the same way as the product itself. Disposal of emptied and cleaned packaging must be made in accordance with applicable local and national regulations.

Disposal-relevant information

Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

Australia (ADG)

Dangerous Goods? X
PROPER SHIPPING NAME: ORGANIC PEROXIDE TYPE D, LIQUID
Hazard Class: 5.2
UN Number: UN3105
Transport Label Required: Organic Peroxide
TECHNICAL NAME (N.O.S.): methyl ethyl ketone peroxide
HAZCHEM Code: 2WE
IERG: 32

IMO

Dangerous Goods? X
UN PROPER SHIPPING NAME: ORGANIC PEROXIDE TYPE D, LIQUID
Transport Hazard Class: 5.2
UN Number: UN3105
Transport Label Required: Organic Peroxide
TECHNICAL NAME (N.O.S.): methyl ethyl ketone peroxide

ICAO / IATA

Dangerous Goods? X
UN PROPER SHIPPING NAME: ORGANIC PEROXIDE TYPE D, LIQUID
Transport Hazard Class: 5.2
UN Number: UN3105
Transport Label Required: Organic Peroxide
TECHNICAL NAME (N.O.S.): methyl ethyl ketone peroxide

15. REGULATORY INFORMATION

THAILAND

DIW Type 1-4 Hazardous substance (except Annex 5.6): Applicable
Dimethyl phthalate - CAS: 131-11-3 (55 - 70 %) Type 3 Hazardous Substance

PHILIPPINES

Priority Chemicals: Not applicable
Dangerous Drugs - Table I: Not applicable
Dangerous Drugs - Table II: Applicable
2-Butanone (Methyl ethyl ketone) - CAS: 78-93-3 (1 - 5 %)

TAIWAN

Toxic Chemical Substances: Applicable

Dimethyl phthalate - CAS: 131-11-3 (55 - 70 %) Class 1

Inventory Information

Australia: All components of this product are included in the Australian Inventory of Industrial Chemicals (AIIC) or are not required to be listed on AIIC.

New Zealand: This product is approved or exempt under the Hazardous Substances and New Organisms (HSNO) Act.

United States (USA): All components of this product are designated as "Active" on the TSCA Inventory or are not required to be listed.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory. When purchased from Allnex Korea or Chemart distributor this product is compliant with the ARECs (the Act on the Registration and Evaluation, etc. of Chemical Substances). All its components are either excluded, exempt, pre-notified and/or registered. When purchased from another allnex entity, please contact PSRA-KREACH@allnex.com to check the possibility to be covered by our Only Representative.

Taiwan: All components of this product are included in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).

OTHER INFORMATION

Malaysia: Safety Data Sheet complies with the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 & Industry Code of Practice on Chemicals Classification and Hazard Communication 2014 by Department of Occupational Safety and Health, Malaysia.

Vietnam: The safety data sheet (SDS) is compiled in compliance with international regulations as well as relevant current regulations of Vietnam, including: Law of Chemicals and Decree 113/2017/ND-CP detailing and guiding the implementation of a number of articles of the Law of Chemicals and related guiding circulars, as well as replacement regulations (if any).

16. OTHER INFORMATION

Reasons for Issue: New Format

Date Prepared: 06-Apr-2023

Date of last significant revision: 06-Mar-2022

Emergency phone numbers for other regions

Asia Pacific

Australia: +61 1800 022 037 (Allnex Australia)

China (PRC): +86(0)532 8388 9090 (NRCC)

Japan: 0120 015 230 (toll free) (Carechem24)

Korea: +82 2 3479 8401 (Carechem 24)

New Zealand: +64 0800 803 002 (Allnex New Zealand)

Europe

+44 (0) 1235 239 670 (Carechem 24)

Middle East, Africa

+44 (0) 1235 239 671 (Carechem 24)

Latin America

Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)

Chile: +56 2 2582 9336 (Carechem 24)

Mexico and all others: +52-555-004-8763 (Carechem 24)

Canada and USA

+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)

Prepared By: Product Sustainability & Regulatory Affairs Department, <http://www.allnex.com/contact>

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