SAFETY DATA SHEET

BENOX®L-40LV

Version	Revision Date:	SDS Number:	Date of last issue: 09.08.2023
2.2	11.04.2024	600000000152	Date of first issue: 06.03.2019

SECTION 1: IDENTIFICATION

Product name : BENOX®L-40LV

Manufacturer or supplier's details

Company	:	United Initiators Pty Ltd
Address	:	20-22 McPherson Street Banksmeadow NSW 2019 Australia
Telephone	:	+61 2 9188 3690 (Monday–Friday office hours only)
Emergency telephone number	:	+49 89 744220 (24 hours specialist advise)
E-mail address	:	cs-initiators.au@united-in.com

Recommended use of the chemical and restrictions on use

Recommended use : Curing chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Organic peroxides	:	Type E
Serious eye damage/eye irritation	:	Category 2B
Skin sensitisation	:	Category 1
Short-term (acute) aquatic hazard	:	Category 1
Long-term (chronic) aquatic hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H242 Heating may cause a fire.
H317 May cause an allergic skin reaction.

H320 Causes eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.
P240 Ground and bond container and receiving equipment.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
P391 Collect spillage.

Storage:

P403 Store in a well-ventilated place.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding 30 °C/ 86 °F.
P420 Store separately.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Organic Peroxide
Liquid mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
dibenzoyl peroxide	94-36-0	> 36 -< 42
Zinc stearate	557-05-1	>= 1 -< 5

SECTION 4. FIRST AID MEASURES

General advice : Take off contaminated clothing and shoes immediately.
Call a physician immediately.
Never give anything by mouth to an unconscious person.
If unconscious, place in recovery position and seek medical advice.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Administer oxygen if breathing is difficult or cyanosis is observed.
If breathed in, move person into fresh air.
If not breathing, give artificial respiration.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If symptoms persist, call a physician.
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash contaminated clothing before re-use.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Call a physician immediately.
Keep respiratory tract clear.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.
Causes eye irritation.
sensitising effects

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray jet Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Risk of explosion if heated under confinement. Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up. Avoid confinement. Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite. The product burns violently. Flash back possible over considerable distance. Do not allow run-off from fire fighting to enter drains or water courses. Vapours may form explosive mixtures with air. The product will float on water and can be reignited on surface water. Cool closed containers exposed to fire with water spray.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use a water spray to cool fully closed containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not use a solid water stream as it may scatter and spread fire. Remove undamaged containers from fire area if it is safe to do so. Use water spray to cool unopened containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.
Hazchem Code	:	2W

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Follow safe handling advice and personal protective equipment recommendations. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Use personal protective equipment. Remove all sources of ignition. Never return spills in original containers for re-use. Treat recovered material as described in the section "Disposal considerations".
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contact with incompatible substances can cause decomposition at or below SADT. Clear spills immediately. Suppress (knock down) gases/vapours/mists with a water spray jet. To clean the floor and all objects contaminated by this material, use plenty of water. Soak up with inert absorbent material. Isolate waste and do not reuse. Non-sparking tools should be used. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Advice on protection against fire and explosion	:	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Keep away from combustible material.
Advice on safe handling	:	Open drum carefully as content may be under pressure. Protect from contamination. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid formation of aerosol. Take precautionary measures against static discharges.

		Never return any product to the container from which it was originally removed. Provide sufficient air exchange and/or exhaust in work rooms. Avoid confinement. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Smoking, eating and drinking should be prohibited in the application area. Wash thoroughly after handling. For personal protection see section 8. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Keep away from food and drink. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.
Conditions for safe storage	:	Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in cool place. Keep in a well-ventilated place. Contamination may result in dangerous pressure increases - closed containers may rupture. Observe label precautions. Store in accordance with the particular national regulations. Avoid impurities (e.g. rust, dust, ash), risk of decomposition. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Materials to avoid	:	Keep away from combustible materials. Keep away from strong acids, bases, heavy metal salts and other reducing substances.
Recommended storage temperature	:	0 - 30 °C
Further information on storage stability	:	Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
dibenzoyl peroxide	94-36-0	TWA	5 mg/m3	AU OEL
	Further information: Sensitiser			
		TWA	5 mg/m3	ACGIH
Zinc stearate	557-05-1	TWA	10 mg/m3	AU OEL
		TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH

Engineering measures : Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Filter type : ABEK-filter

Hand protection

Material : butyl-rubber
Break through time : 480 min
Glove thickness : 0.47 mm

Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0.5 mm

Remarks : The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.

Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Wear as appropriate:
Flame retardant antistatic protective clothing.

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Emulsion
Colour	:	white
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	not determined substance/mixture is non-soluble (in water)
Melting point/range	:	No data available
Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Organic peroxide
Flammability (liquids)	:	Organic peroxide

Self-ignition	:	The substance or mixture is not classified as pyrophoric.
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	not determined
Relative density	:	not determined
Density	:	1.2 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	not determined
Self-Accelerating decomposition temperature (SADT)	:	50 °C Method: UN-Test H.4 SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Organic peroxide
Self-heating substances	:	The substance or mixture is not classified as self heating.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions. Heating may cause a fire or explosion.
Chemical stability	:	Stable under recommended storage conditions.

No decomposition if stored normally.

Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Protect from contamination. Contact with incompatible substances can cause decomposition at or below SADT. Heat, flames and sparks. Avoid confinement.
Incompatible materials	:	Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents
Hazardous decomposition products	:	Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat): > 24.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Remarks: No data available

Zinc stearate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat): > 200 mg/l Exposure time: 1 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Not classified due to lack of data.

Product:

Remarks : May cause skin irritation in susceptible persons.

Components:

dibenzoyl peroxide:

Species : Rabbit
Result : No skin irritation

Zinc stearate:

Species : Rabbit
Method : Draize Test
Result : No skin irritation

Serious eye damage/eye irritation

Causes eye irritation.

Product:

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

dibenzoyl peroxide:

Species : Rabbit
Result : Irritation to eyes, reversing within 7 days

Zinc stearate:

Species : Rabbit
Result : No eye irritation
Method : Draize Test

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Remarks : Causes sensitisation.

Components:

dibenzoyl peroxide:

Exposure routes : Skin contact
Species : Mouse
Method : Local lymph node assay (LLNA)
Result : May cause sensitisation by skin contact.

Zinc stearate:

Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.
Remarks : Information given is based on data obtained from similar substances.

Chronic toxicity

Germ cell mutagenicity

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative

Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: dominant lethal test
Species: Mouse
Result: negative

Zinc stearate:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Test Type: Chromosomal aberration
Species: Rat
Result: Equivocal

Carcinogenicity

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

Remarks : This information is not available.

Reproductive toxicity

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

Effects on fertility : Species: Rat, male
Application Route: Oral
General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight
Method: OECD Test Guideline 422

Species: Rat, female
Application Route: Oral
General Toxicity - Parent: NOAEL: 500 mg/kg body weight
Method: OECD Test Guideline 422

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Zinc stearate:

Effects on fertility : Species: Rat
Application Route: oral (gavage)
General Toxicity F1: NOAEL: 7.5 mg/kg body weight
Method: OECD Test Guideline 416
Remarks: Based on data from similar materials

Effects on foetal development : Species: Mouse
Application Route: oral (gavage)
General Toxicity Maternal: NOAEL: 30 mg/kg body weight
Teratogenicity: NOAEL: 30 mg/kg body weight
Remarks: Based on data from similar materials

STOT - single exposure

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

Exposure routes : Ingestion
Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

Exposure routes	:	Ingestion
Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

dibenzoyl peroxide:

Species	:	Rat
NOAEL	:	1,000 mg/kg
Application Route	:	Oral
Exposure time	:	28 d
Method	:	OECD Test Guideline 422

Zinc stearate:

Species	:	Mouse
NOAEL	:	458 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 408

Aspiration toxicity

Not classified due to lack of data.

Components:

dibenzoyl peroxide:

No aspiration toxicity classification

Further information

Product:

Remarks	:	No data available

Components:

Zinc stearate:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

Components:

dibenzoyl peroxide:

Toxicity to fish	:	EC50 (Oncorhynchus mykiss (rainbow trout)): 0.06 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.11 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.071 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.02 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10 (Daphnia magna (Water flea)): 0.001 mg/l Exposure time: 21 d Test Type: semi-static test Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (Bacteria): 35 mg/l Exposure time: 30 min Method: OECD Test Guideline 209

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

Zinc stearate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 10,000 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other	:	LC50 (Daphnia magna (Water flea)): > 100 mg/l

aquatic invertebrates		Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): 1,000 mg/l Exposure time: 0.5 h Method: DIN 38 412 Part 8

Persistence and degradability

Components:

dibenzoyl peroxide:

Biodegradability	:	Result: Biodegradable Method: OECD Test Guideline 301D

Zinc stearate:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301D

Bioaccumulative potential

Components:

dibenzoyl peroxide:

Partition coefficient: n-octanol/water	:	log Pow: 3.2 (20 °C)

Zinc stearate:

Partition coefficient: n-octanol/water	:	Remarks: No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

Components:

Zinc stearate:

Additional ecological infor-	:	No data available

mation

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of wastes in an approved waste disposal facility. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Dispose of in accordance with local regulations. Clean container with water. Dispose of contents/ container to an approved waste disposal plant. Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3107
Proper shipping name	:	ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)
Class	:	5.2
Packing group	:	Not assigned by regulation
Labels	:	5.2
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3107
Proper shipping name	:	Organic peroxide type E, liquid (Dibenzoyl peroxide)
Class	:	5.2
Packing group	:	Not assigned by regulation
Labels	:	Organic Peroxides, Keep Away From Heat
Packing instruction (cargo aircraft)	:	570
Packing instruction (passenger aircraft)	:	570

IMDG-Code

UN number	:	UN 3107
Proper shipping name	:	ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)
Class	:	5.2
Packing group	:	Not assigned by regulation

Labels	:	5.2
EmS Code	:	F-J, S-R
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG

UN number	:	UN 3107
Proper shipping name	:	ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)
Class	:	5.2
Packing group	:	Not assigned by regulation
Labels	:	5.2
Hazchem Code	:	2W
Environmentally hazardous	:	yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Gefahrgruppe nach TRGS 741: II (German regulatory requirements)

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 5 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

TCSI (TW)	:	On the inventory, or in compliance with the inventory
TSCA (US)	:	All substances listed as active on the TSCA inventory
AIIC (AU)	:	On the inventory, or in compliance with the inventory

DSL (CA)	:	All components of this product are on the Canadian DSL
IECSC (CN)	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

Revision Date	:	11.04.2024
Other information	:	This safety datasheet only contains information relating to safety and does not replace any product information or product specification. These safety instructions also apply to empty packaging which may still contain product residues. The hazards on the label also apply to residues in the container.
Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	:	8-hour, time-weighted average
AU OEL / TWA	:	Exposure standard - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Con-

centration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

AU / EN