

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 1 of 11

1. Identification

Product identifier

LPKF ProLegend Component B

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Component of a photosensitive lacquer for the production of assembly imprints on printed circuit boards

Uses advised against

Any non-intended use.

Details of the supplier of the safety data sheet

Company name: LPKF Distribution
Inc. dba LPKF Laser & Electronics
Street: 12555 SW Leveton Dr
Place: USA-OR 97062 Tigard

Emergency phone number:

Telephone: 1-800-255-3924 (USA, Chemtel)
Telephone: 01-813-248-0585 (Outside US and Canada)

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

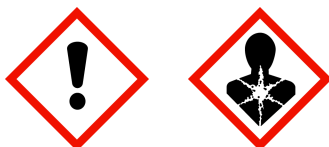
Flammable liquids: Flam. Liq. 4
Respiratory or skin sensitization: Skin Sens. 1
Reproductive toxicity: Repr. 1B
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

Combustible liquid
May cause an allergic skin reaction
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not breathe dust/fume/gas/mist/vapors/spray.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of soap and water.
Wash contaminated clothing before reuse.
If exposed or concerned: Get medical advice/attention.
In case of fire: Use Carbon dioxide (CO2) Dry extinguishing powder. alcohol resistant foam. Atomized water.
to extinguish.
Store in a well-ventilated place.

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 2 of 11

Store locked up.

Dispose of contents/container to local/regional/national/international regulations.

Hazards not otherwise classified

Environmental hazards:

Aquatic Acute 2 . Aquatic Chronic 2 . H401, H411

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The components in this formulation do not meet the criteria for classification as PBT or vPvB .

3. Composition/information on ingredients**Mixtures****Hazardous components**

CAS No	Components	Quantity
34590-94-8	(2-methoxymethylethoxy)propanol	10 - 20 %
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	5 - 10 %
24650-42-8	2,2-dimethoxy-1,2-diphenylethane-1-one	5 - 10 %
	acrylated oligomer	2,5 - 5 %

4. First-aid measures**Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO2) Dry extinguishing powder. alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

Specific hazards arising from the chemical

Can be released in case of fire: Carbon monoxide, Carbon dioxide (CO2).

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 3 of 11

Special protective equipment and precautions for fire-fighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Co-ordinate fire-fighting measures to the fire surroundings.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

See protective measures under point 7 and 8.

Remove all sources of ignition. Ventilate affected area.

Environmental precautions

Do not allow to enter into surface water or drains. Eliminate leaks immediately. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into soil/subsoil. If required, notify relevant authorities according to all applicable regulations.

Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. (See section 8.)

Only use the material in places where open light, fire and other flammable sources can be kept away.

Advice on protection against fire and explosion

Usual measures for fire prevention. Take precautionary measures against static discharges.

Further information on handling

General protection and hygiene measures: refer to chapter 8

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Gas. Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances.

Infectious substances.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: 5-25°C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
---------	-----------	-----	-------------------	------	----------	--------

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 4 of 11

7727-43-7	Barium sulfate (resp)	-	5	TWA (8 h)	REL
7727-43-7	Barium sulfate Respirable fraction	-	5	TWA (8 h)	PEL
34590-94-8	Dipropylene glycol methyl ether	100	600	TWA (8 h)	PEL
		100	600	TWA (8 h)	REL
		150	900	STEL (15 min)	REL

Additional advice on limit values

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation.

Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). Standards: EN 166 or 29 CFR 1910.133

Hand protection

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of the glove material 0,4 mm

Breakthrough time $\geq$ 8 h

Butyl rubber. - Thickness of the glove material 0,5 mm

Breakthrough time $\geq$ 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of the glove material 0,5 mm

Breakthrough time $\geq$ 8 h

NBR (Nitrile rubber). - Thickness of the glove material 0,35 mm

Breakthrough time $\geq$ 8 h

PVC (Polyvinyl chloride). - Thickness of the glove material 0,5 mm

Breakthrough time $\geq$ 8 h

The selected protective gloves should satisfy the specifications of standards like EN 374.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

Insufficient ventilation.

Release of: product.

Exceeding exposure limit values

Suitable respiratory protective equipment: Combination filter device (e.g., airline respirators with an airpurifying filter) EN 14387 or 29 CFR 1910.134 standard.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

No special precautionary measures are necessary.

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 5 of 11

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	liquid	
Color:	colourless	
Odor:	characteristic	
pH-Value:		not determined

Changes in the physical state

Melting point/freezing point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	79 °C
Sustaining combustion:	Not sustaining combustion

Explosive properties

none

Lower explosion limits:	1,1 vol. %
Upper explosion limits:	14 vol. %
Ignition temperature:	270 °C

Auto-ignition temperature

Gas:

not determined

Decomposition temperature:	not determined
----------------------------	----------------

Oxidizing properties

none

Vapor pressure: (at 20 °C)	0,4 hPa
-------------------------------	---------

Density:	1,374 g/cm ³
----------	-------------------------

Water solubility:	partially soluble
-------------------	-------------------

Solubility in other solvents

not determined

Partition coefficient:	not determined
------------------------	----------------

Viscosity / dynamic: (at 20 °C)	18000 mPa·s
------------------------------------	-------------

Viscosity / kinematic:	not determined
------------------------	----------------

Flow time:	not determined
------------	----------------

Vapor density:	not determined
----------------	----------------

Evaporation rate:	not determined
-------------------	----------------

Solvent separation test:	< 3%
--------------------------	------

Solvent content:	17%
------------------	-----

Other information

Solid content:	not determined
----------------	----------------

10. Stability and reactivity

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 6 of 11

Reactivity

No information available.

Chemical stability

Stability: Stable

The product is chemically stable under recommended conditions of storage, use and temperature.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

Refer to chapter 10.5.

Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

Incompatible materials

Materials to avoid: Oxidising agent, strong Reducing agents, strong.

Hazardous decomposition products

Can be released in case of fire: Carbon monoxide, Carbon dioxide (CO₂).

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Ingestion: May be harmful if swallowed. Inhalation: May be harmful if inhaled. Skin contact: May cause an allergic skin reaction. Eye contact: May cause irritation. Chronic effects: May cause damage to organs through prolonged or repeated exposure. This substance is hazardous in the sense of regulation (EC) No 1272/2008 (CLP). May damage fertility or the unborn child.

Toxicokinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
34590-94-8	(2-methoxymethylethoxy)propanol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	OECD Guideline 401
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	OECD Guideline 402
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 > 5000 mg/kg	Rat	ECHA Dossier	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	ECHA Dossier	OECD Guideline 401

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitizing effects

May cause an allergic skin reaction (Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide; 2,2-dimethoxy-1,2-diphenylethane-1-one)

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility or the unborn child (Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 7 of 11

(2-methoxymethylethoxy)propanol:

OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) = negative.

Literature information: ECHA Dossier

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide:

In vitro mutagenicity/genotoxicity: Method: OECD 471 (Ames test). Result / evaluation: negative.;

Developmental toxicity/teratogenicity: Method: OECD 414. Species: Rat. Result: NOAEL = 150 mg/kg bw/day

Literature information: ECHA Dossier.

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure

May cause damage to organs through prolonged or repeated exposure

(2,2-dimethoxy-1,2-diphenylethane-1-one)

(2-methoxymethylethoxy)propanol:

Subacute oral toxicity NOAEL = 1000 mg/kg (Rat.)

Subchronic dermal toxicity NOEL = 2850 mg/kg (Rabbit.)

Subchronic inhalative toxicity NOAEL = 200 ppm (Rat.) ; Literature information: ECHA Dossier

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide:

Subacute oral toxicity: Method: Japanese Ministry of Health and Welfare (M.H.W.) guidelines 1986 for a twenty-eight day repeat dose oral toxicity study. Exposure duration: 28 d. Species: Rat. Result / evaluation:

NOAEL = 50 mg/kg bw/day Literature information: ECHA Dossier.

Carcinogenicity (OSHA): No ingredient of this mixture is listed.

Carcinogenicity (IARC): No ingredient of this mixture is listed.

Carcinogenicity (NTP): No ingredient of this mixture is listed.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

12. Ecological information

Ecotoxicity

The product has not been tested.

CAS No	Components					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
34590-94-8	(2-methoxymethylethoxy)propanol					
	Acute fish toxicity	LC50 mg/l	>1000	96 h	Poecilia reticulata	ECHA Dossier OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	>1000	72 h	Pseudokirchnerella subcapitata (OECD 201)	ECHA Dossier OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	1919	48 h	Daphnia magna	ECHA Dossier OECD Guideline 202
	Crustacea toxicity	NOEC mg/l	>= 0.5	22 d	Daphnia magna	ECHA Dossier OECD Guideline 211
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute fish toxicity	LC50	1,4 mg/l	96 h	Cyprinus carpio	ECHA Dossier OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 2,01	72 h	Pseudokirchneriella subcapitata	ECHA Dossier OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	3,53	48 h	Daphnia magna	ECHA Dossier OECD Guideline 202

Persistence and degradability

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 8 of 11

The product has not been tested.

Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Components	Log Pow
34590-94-8	(2-methoxymethylethoxy)propanol	0,0043
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,1
24650-42-8	2,2-dimethoxy-1,2-diphenylethane-1-one	2,95

BCF

CAS No	Components	BCF	Species	Source
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	18-22	Cyprinus carpio	ECHA Dossier

Mobility in soil

No data available.

Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

14. Transport information

US DOT 49 CFR 172.101

UN/ID number:

UN 3082

Proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport hazard class(es):

9

Packing group:

III

Hazard label:

9



Marine transport (IMDG)

UN number:

UN 3082

UN proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(2,2-dimethoxy-1,2-diphenylethane-1-one)

Transport hazard class(es):

9

Packing group:

III

Hazard label:

9

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 9 of 11



Marine pollutant: Yes
Special Provisions: 274, 335, 969
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(2,2-dimethoxy-1,2-diphenylethane-1-one)
Transport hazard class(es): 9
Packing group: III
Hazard label: 9



Special Provisions: A97 A158 A197
Limited quantity Passenger: 30 kg G
Passenger LQ: Y964
Excepted quantity: E1
IATA-packing instructions - Passenger: 964
IATA-max. quantity - Passenger: 450 L
IATA-packing instructions - Cargo: 964
IATA-max. quantity - Cargo: 450 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



Special precautions for user

refer to chapter 6-8

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

not relevant

15. Regulatory information

U.S. Regulations

National Inventory TSCA

(2-methoxymethylethoxy)propanol listed in the TSCA inventory 8 (b): (x) active ,not listed under TSCA 12(b)
2,2-dimethoxy-1,2-diphenylethane-1-one: listed in the TSCA inventory 8 (b): (x) active ,not listed under TSCA 12(b)
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: listed in the TSCA inventory 8 (b): (x) active ,not listed under TSCA 12(b)
acrylated oligomer: unkown status

National regulatory information

SARA Section 311/312 Hazards:
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (75980-60-8): Immediate (acute) health hazard

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 10 of 11

2,2-dimethoxy-1,2-diphenylethane-1-one (24650-42-8): Immediate (acute) health hazard, Delayed (chronic) health hazard

acrylated oligomer (-): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:

Barium compounds (-): De minimis limit = 1.0 %, Reportable threshold = Standard

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Additional information

This preparation is hazardous in the sense of regulation 29 CFR Part 1910.1200.

16. Other information

Hazardous Materials Information Label (HMIS)

Health:	*2
Flammability:	2
Physical Hazard:	0
Personal Protection:	B

NFPA Hazard Ratings

Health:	1
Flammability:	2
Reactivity:	0
Unique Hazard:	



Changes

Revision date:	17.09.2020
Revision No:	2,0
Rev. 1.0; Initial release:	19.02.2020
Rev. 2.0; Changes in chapter:	2 3, 8, 11,12, 15, 16, 17.09.2020

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists
 ASTM: American Society for Testing and Materials.
 ATE: acute toxicity estimate
 BCF: Bio concentration factor
 ECHA: European Chemicals Agency
 CAS Chemical Abstracts Service
 CFR: Code of Federal Regulations
 DOT: Department of Transportation
 d: days
 EC50: Half maximal effective concentration
 EN: European Norm
 EPA: Environmental Protection Agency
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 h: hours
 HMIS: Hazardous Materials Identification System
 IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
 IBC: Intermediate Bulk Container
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

Safety Data Sheet

according to 29 CFR 1910.1200(g)

LPKF ProLegend Component B

Revision date: 17.09.2020

Product code:

Page 11 of 11

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

MARPOL: marine pollution

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect concentration

NTP: National Toxicology Program

N/A: not applicable

NFPA: National Fire Protection Association

UN: United Nations

OECD: Organisation for Economic Co-operation and Development

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

RTECS: Registry of Toxic Effects of Chemical Substances

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

SARA: Superfund Amendments and Reauthorization Act

STEL: short-term exposure limits

TSCA: Toxic Substances Control Act

TWA: time weighted average

VOC: Volatile Organic Compounds

Other data

Classification according 29 CFR Part 1910.1200: - Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)