

LD7 Liquid Developer Aerosol

Version: 3.0

Revision Date 10.04.2014

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : LD7 Liquid Developer Aerosol

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-
stance/Mixture : Developer
Recommended restrictions
on use : None known.

1.3 Details of the supplier of the safety data sheet

Company : Chemetall Ltd
Denbigh Road
Bletchley Milton Keynes MK1 1PB
Telephone : 01908 649333
Telefax : 01908 373939

Contact person product safety
Telephone : +49(0)6971652832
E-mail address : msds.de@chemetall.com

1.4 Emergency telephone number

Emergency telephone
number : 01908 649333

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurized container: May burst if heated.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.

Classification (67/548/EEC, 1999/45/EC)

Extremely flammable	R12: Extremely flammable.
Irritant	R36: Irritating to eyes. R67: Vapours may cause drowsiness and dizziness.

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ness.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word :

Danger

Hazard statements :

H222
H229
H319
H336

Extremely flammable aerosol.
Pressurized container: May burst if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Precautionary statements :

Prevention:
P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211

Do not spray on an open flame or other ignition source.

P251
P260

Do not pierce or burn, even after use.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P262
P271

Do not get in eyes, on skin, or on clothing.
Use only outdoors or in a well-ventilated area.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338

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

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Storage:

P410 + P412

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

P501

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

Hazardous components which must be listed on the label:

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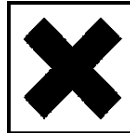
- 67-63-0 Propan-2-ol

Labelling according to EC Directives (1999/45/EC)

Hazard pictograms :



Extremely
flammable



Irritant

R-phrase(s) :

R12
R36
R67

Extremely flammable.
Irritating to eyes.
Vapours may cause drowsiness and dizziness.

S-phrase(s) :

S16

S23
S24/25
S26

S36/37/39

S60

Keep away from sources of ignition - No smoking.
Do not breathe gas/fumes/vapour/spray.
Avoid contact with skin and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection.
This material and its container must be disposed of as hazardous waste.

Special labelling of certain mixtures :

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C.
Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material.
Keep away from sources of ignition - No smoking.
Keep out of the reach of children.

2.3 Other hazards

The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Chemical nature : Mixture of organic solvents containing surfactants.

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Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Propan-2-ol	67-63-0 200-661-7 01-2119457558-25	F; R11 Xi; R36 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 25 - < 50
Propane	74-98-6 200-827-9 01-2119486944-21	F+; R12	Flam. Gas 1; H220 Press. Gas	>= 10 - < 25
Acetone	67-64-1 200-662-2 01-2119471330-49	F; R11 Xi; R36 R66 R67	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 3 - < 10

Substances with a workplace exposure limit :

Butane	106-97-8 203-448-7	F+; R12 Nota C	Flam. Gas 1; H220 Press. Gas	>= 25 - < 50
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For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.
For the full text of the Notas mentioned in this Section, see Section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : First-aid crew: Ensure self-protection.
Move out of dangerous area.
Take off contaminated clothing and shoes immediately.
- If inhaled : Move to fresh air.
If symptoms persist, call a physician.
- In case of skin contact : Wash off with soap and plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids.
Consult a physician.
- If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : May cause drowsiness or dizziness.
- Risks : Causes serious eye irritation.
May cause drowsiness or dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.
For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry powder
Alcohol-resistant foam
Water spray

- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire- : May form toxic gases on heating or in case of fire.

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fighting

Carbon monoxide
Carbon dioxide (CO₂)

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Further information : Use water spray to cool unopened containers.
Risk of bursting.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Wear personal protective equipment.

6.2 Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up : Ensure adequate ventilation.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

- See chapter 8 and 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : To avoid risks to man and the environment, comply with the instructions for use.
Provide sufficient air exchange and/or exhaust in work rooms.
Floor level ventilation required.
Have eye wash bottle or eye rinse ready at the work place.
- Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.
Take precautionary measures against static discharges.
Vapours may form explosive mixtures with air.
Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

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Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.
Store in a place accessible by authorized persons only.
To maintain product quality, do not store in heat or direct sunlight.
Protect from frost.

Storage temperature : 5 - 40 °C

7.3 Specific end use(s)

Specific use(s) : Developer

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Butane	106-97-8	TWA	600 ppm 1,450 mg/m3	2007-08-01	GB EH40
Further information	: Carc: Capable of causing cancer and/or heritable genetic damage. The identified substances include those which: - are assigned the risk phrases 'R45: May cause cancer'; 'R46: may cause heritable genetic damage'; 'R49: May cause cancer by inhalation' or - a substance or process listed in Schedule 1 of COSHH. Carcinogenic only applies if butane contains more than 0.1% of buta-1,3-diene				
	106-97-8	STEL	750 ppm 1,810 mg/m3	2007-08-01	GB EH40
Further information	: Carc: Capable of causing cancer and/or heritable genetic damage. The identified substances include those which: - are assigned the risk phrases 'R45: May cause cancer'; 'R46: may cause heritable genetic damage'; 'R49: May cause cancer by inhalation' or - a substance or process listed in Schedule 1 of COSHH. Carcinogenic only applies if butane contains more than 0.1% of buta-1,3-diene				
Propan-2-ol	67-63-0	TWA	400 ppm 999 mg/m3	2006-09-01	GB EH40
	67-63-0	STEL	500 ppm 1,250 mg/m3	2006-09-01	GB EH40
Acetone	67-64-1	TWA	500 ppm	2000-06-16	2000/39/EC

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			1,210 mg/m3		
Further information	:	Indicative			
	67-64-1	TWA	500 ppm 1,210 mg/m3	2005-04-06	GB EH40
	67-64-1	STEL	1,500 ppm 3,620 mg/m3	2005-04-06	GB EH40

DNEL/DMEL

Propan-2-ol

: End Use: DNEL, Industrial use, Workers
 Exposure routes: Skin contact
 Potential health effects: Long-term systemic effects
 Value: 888 mg/kg bw/d

End Use: DNEL, Workers
 Exposure routes: Inhalation
 Potential health effects: Long-term systemic effects
 Value: 500 mg/m3

Acetone

: End Use: DNEL, Workers
 Exposure routes: Inhalation
 Potential health effects: Short-term exposure, Systemic effects
 Value: 1210 mg/m3

End Use: DNEL, Workers
 Exposure routes: Inhalation
 Potential health effects: Long-term local effects
 Value: 2420 mg/m3

End Use: DNEL, Workers
 Exposure routes: Inhalation
 Potential health effects: Long-term systemic effects
 Value: 1210 mg/m3

End Use: DNEL, Workers
 Exposure routes: Skin contact
 Potential health effects: Long-term systemic effects
 Value: 186 mg/kg

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PNEC

Propan-2-ol

: Fresh water
Value: 140.9 mg/l

Marine water
Value: 140.9 mg/l

Behaviour in waste water treatment plants
Value: 2251 mg/l

Sediment
Value: 552 mg/kg dry weight (d.w.)

Soil
Value: 28 mg/kg

Acetone

: Fresh water
Value: 10.6 mg/l

Marine water
Value: 1.06 mg/l

Behaviour in waste water treatment plants
Value: 100 mg/l

Fresh water sediment
Value: 30.04 mg/kg dry weight (d.w.)

Marine sediment
Value: 3.04 mg/kg dry weight (d.w.)

Soil
Value: 29.5 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
Recommended Filter type:
AX-P2

Hand protection : Nitrile rubber
Neoprene gloves
butyl-rubber
Protective gloves complying with EN 374.

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Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

- Eye protection : Eye protection (EN 166)
Tightly fitting safety goggles
- Skin and body protection : Chemical resistant protective clothing according to DIN EN 13034 (Type 6)
- Hygiene measures : Take off contaminated clothing and shoes immediately.
Keep away from food, drink and animal feedingstuffs.
Wash hands before breaks and immediately after handling the product.
Avoid contact with skin and eyes.
Do not breathe vapour.
Do not breathe spray.

Environmental exposure controls

- General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : aerosol
- Colour : white
- Odour : alcohol-like
- Flash point : 12 °C
Method: ASTM D 93
Active substance
- Boiling point/boiling range : -60 °C
Butane/Propane
not applicable
Active substance
- Density : 0.96 g/cm³
at 20 °C
Active substance

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Water solubility : completely miscible

9.2 Other information

Explosivity : Vapours may form explosive mixture with air.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.
Pressurized container: May burst if heated.

10.4 Conditions to avoid

Conditions to avoid : Keep away from open flames, hot surfaces and sources of ignition.
Protect from frost, heat and sunlight.

10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents

10.6 Hazardous decomposition products

Risk of decomposition. : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity
Propan-2-ol : LD50: 5,840 mg/kg
Species: rat
Method: OECD Test Guideline 401

Acetone : LD50: 5,800 mg/kg
Species: rat

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Method: OECD Test Guideline 401

Acute inhalation toxicity
Propan-2-ol

: LC50: 30 mg/l
Exposure time: 4 h
Species: rat

Acetone

: LC50: ca. 76 mg/l
Exposure time: 4 h
Species: rat

Acute dermal toxicity
Propan-2-ol

: LD50: 13,900 mg/kg
Species: rabbit
Method: OECD Test Guideline 402

Acetone

: LD50: > 158,000 mg/kg
Species: rabbit

Skin corrosion/irritation

Skin irritation

: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Eye irritation

: Causes serious eye irritation.

Respiratory or skin sensitisation

Sensitisation

: No data available

Germ cell mutagenicity

Acetone

: Ames test
Result: negative
Method: OECD Test Guideline 471

Ames test
Result: negative
Method: OECD Test Guideline 476

Genotoxicity in vivo

Acetone

: in vivo assay
Species: mouse Oral
negative

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Neurological effects : May cause drowsiness or dizziness.

SECTION 12: Ecological information

12.1 Toxicity

Ecotoxicology studies for the product are not available.

Toxicity to fish

Propan-2-ol : LC50: 8,970 mg/l
Exposure time: 48 h
Species: Leuciscus idus (Golden orfe)

LC50: 9,640 mg/l
Exposure time: 96 h
Species: Pimephales promelas (Fathead minnow)

Acetone : static test LC50: 5,540 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates

Propan-2-ol : LC50: 9,714 mg/l
Exposure time: 24 h
Species: Daphnia magna (Water flea)

Acetone : static test EC50: 8,800 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

flow-through test NOEC: 2,212 mg/l
Exposure time: 28 d
Species: Daphnia magna (Water flea)

Toxicity to algae

Propan-2-ol : EC50: > 100 mg/l
Exposure time: 72 h
Species: Scenedesmus subspicatus

Acetone : static test NOEC: 430 mg/l
Exposure time: 96 h
Species: Algae

static test NOEC: 530 mg/l

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Exposure time: 8 d
Species: Microcystis aeruginosa

Toxicity to bacteria
Propan-2-ol : IC50: > 100 mg/l
Species: Bacteria

Acetone : Respiration inhibition
.: 1,000 mg/l
Exposure time: 30 min
Species: activated sludge
EC12

12.2 Persistence and degradability

Biodegradability : No data available

12.3 Bioaccumulative potential

Bioaccumulation : Bioaccumulation is unlikely.

12.4 Mobility in soil

Distribution among environ- : No data available
mental compartments

12.5 Results of PBT and vPvB assessment

This mixture does not contain substances considered to be persistent, bioaccumulating and toxic (PBT)., This mixture does not contain substances considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Additional ecological informa- : slightly water endangering
tion : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.

Waste Code : Waste codes should be assigned by the user, preferably in

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discussion with the waste disposal authorities.

SECTION 14: Transport information

ADR

UN number : 1950
UN proper shipping name : AEROSOLS Butane, Propane
Transport hazard class(es) : 2
Classification Code : 5F
Limited Quantity (LQ) Inner : 1.00 L
Packaging
Maximum quantity : 30.00 KG
Labels : 2.1
Tunnel restriction code : (D)
Environmentally hazardous : no

IATA

UN number : 1950
Description of the goods : Aerosols, flammable Butane, Propane
Class : 2.1
Labels : 2.1

IATA_C

Packing instruction (cargo aircraft) : 203
Packing instruction (LQ) : Y203
Maximum quantity : 150.00 KG
Environmentally hazardous : no

IATA_P

Packing instruction (passenger aircraft) : 203
Packing instruction (LQ) : Y203
Maximum quantity : 75.00 KG
Environmentally hazardous : no

IMDG

UN number : 1950
Description of the goods : AEROSOLS Butane, Propane
Class : 2.1
Labels : 2.1
EmS Number 1 : F-D
EmS Number 2 : S-U
Marine pollutant : no

**Shaded from sources of heat.
"IMDG-Code segregation group not applicable".**

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**Shaded from sources of heat.
"IMDG-Code segregation group not applicable".**

RID

UN number : 1950
Description of the goods : AEROSOLS Butane , Propane
Transport hazard class(es) : 2
Classification Code : 5F
Hazard Identification Number : 23
Labels : 2.1
Limited Quantity (LQ) Inner : 1.00 L
Packaging
Maximum quantity : 30.00 KG

Environmentally hazardous : no

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Neither banned nor restricted

Water contaminating class (Germany) : WGK 1 slightly water endangering
VWVWS A4

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.
Regional or national implementations of GHS may not implement all hazard classes and categories.

: Classification / Labeling according to Directive 2008/47/EU.

15.2 Chemical Safety Assessment

For a mixture it is not mandatory to include an exposure scenario in the material safety data sheet. The necessary safety - related information is stated in the first 16 sections.

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3

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R11	Highly flammable.
R12	Extremely flammable.
R36	Irritating to eyes.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurized container: May burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Full text of Notas referred to under section 3

Nota C	Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In Annex I, a general designation of the following type is sometimes used: "xylenol". In this case the manufacturer or any other person who markets such a substance must state on the label whether the substance is a specific isomer (a) or a mixture of isomers (b). Example: (a) 2,4-dimethylphenol (b) xyleneol (mixture of isomers).
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Further information

The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.