acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: **7653** Version: **4.0 en** Replaces version of: 2022-08-01 Version: (3)

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

1.1 Product identifier

Identification of the substance	Diisobutyl ketone ≥94 % pure
Article number	7653
Index No (GB CLP)	606-005-00-X
EC number	203-620-1
CAS number	108-83-8
Alternative name(s)	2,6-dimethylheptan-4-one

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

Relevant identified uses:

Laboratory chemical Laboratory and analytical use Industrial uses Professional uses Formulation [mixing] of preparations and/or repackaging (excluding alloys) Feedstock use Intermediate Use in cleaning agents

Uses advised against:

Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.6	Flammable liquid	3	Flam. Liq. 3	H226
3.8R	Specific target organ toxicity - single exposure (respirat- ory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling

Signal word Warning

Pictograms

GHS02, GHS07



Hazard statements

H226	Flammable liquid and vapour
H335	May cause respiratory irritation

Precautionary statements

Precautionary statements - prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition
	sources. No smoking
P261	Avoid breathing mist/vapours
P280	Wear protective gloves/eye protection/face protection

Precautionary statements - response

P302+P352	IF ON SKIN: Wash with plenty of soap and water
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312	Call a POISON CENTRE/doctor if you feel unwell

2.3 Other hazards

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

3.1

SECTION 3: Composition/information on ingredients

Substances	
Name of substance	Diisobutyl ketone
Molecular formula	C ₉ H ₁₈ O
Molar mass	142,2 ^g / _{mol}
CAS No	108-83-8
EC No	203-620-1
Index No (GB CLP)	606-005-00-X

Substance, Specific Conc. Limits, M-factors, ATE				
Specific Conc. Limits	M-Factors	ATE	Exposure route	
STOT SE 3; H335: C ≥ 10 %	_	-		

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed Irritation, Cough, Dyspnoea, Narcosis

4.3 Indication of any immediate medical attention and special treatment needed

none

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapourair mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

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

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

6.4 Reference to other sections

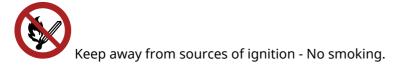
Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

Measures to prevent fire as well as aerosol and dust generation



Take precautionary measures against static discharge.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ground/bond container and receiving equipment.

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Cou ntr y	Name of agent	CAS No	Identi- fier	TW A [pp m]	TWA [mg/ m³]	STE L [pp m]	STEL [mg/ m³]	Ceil ing- C [pp m]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
GB	2,6-dimethylheptan- 4-one	108-83-8	WEL	25	148						EH40/ 2005

Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

acc. to Regulation (EC) No. 1907/2006 (REACH)

Diisobutyl ketone ≥94 % pure

article number: 7653

Notation

 STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15minute period (unless otherwise specified)
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels Threshold Endpoint **Protection goal**, **Used in Exposure time** level route of exposure DNEL 53 mg/m³ human, inhalatory worker (industry) chronic - systemic effects DNEL 7,7 mg/kg bw/ human, dermal chronic - systemic effects worker (industry)

Environmental values

day

Relevant PNECs and other threshold levels						
End- point	Threshold level	Organism	Environmental com- partment	Exposure time		
PNEC	0,03 ^{mg} / _l	aquatic organisms	freshwater	short-term (single instance)		
PNEC	0,003 ^{mg} / _l	aquatic organisms	marine water	short-term (single instance)		
PNEC	2,55 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)		
PNEC	0,46 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single instance)		
PNEC	0,046 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)		
PNEC	0,075 ^{mg} / _{kg}	terrestrial organisms	soil	short-term (single instance)		

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply



acc. to Regulation (EC) No. 1907/2006 (REACH)

Diisobutyl ketone ≥94 % pure

article number: 7653

only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

NBR (Nitrile rubber)

material thickness

>0,3 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 $^{\circ}$ C, colour code: Brown).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	greenish yellow
Melting point/freezing point	-46 °C at 1.013 hPa (ECHA)
Boiling point or initial boiling point and boiling range	168 °C at 1.013 hPa (ECHA)
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	47 g/m³ (LEL) - 365 g/m³ (UEL) / 0,8 vol% (LEL) - 6,2 vol% (UEL)
Flash point	49 °C at 1.013 hPa (c.c.) (ECHA)
Auto-ignition temperature	345 °C at 1.013 hPa (ECHA)
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	1,292 ^{mm²} / _s at 20 °C
Dynamic viscosity	1,05 mPa s at 20 °C
Solubility(ies)	
Water solubility	0,5 ^g / _l at 20 °C



acc. to Regulation (EC) No. 1907/2006 (REACH)

Diisobutyl ketone ≥94 % pure

article number: 7653



Partition coefficient	
Partition coefficient n-octanol/water (log value):	3,71 (25 °C) (ECHA)
Soil organic carbon/water (log KOC)	2,07 (ECHA)
Vapour pressure	1,6 hPa at 20 °C 9,8 hPa at 50 °C
Density and/or relative density	
Density	0,804 – 0,813 ^g / _{cm³}
-	
Relative vapour density	4,91 (air = 1)
Particle characteristics	not relevant (liquid)
Other safety parameters	
Oxidising properties	none
Other information	
Information with regard to physical hazard classes:	There is no additional information.
Other safety characteristics:	
Surface tension	22,8 ^{dyn} / _{cm} (25 °C) (ECHA)
Refractive index	1,414

SECTION 10: Stability and reactivity

10.1 Reactivity

9.2

It's a reactive substance. Risk of ignition.

If heated

Risk of ignition. Vapours may form explosive mixtures with air.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

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

10.5 Incompatible materials

aluminium, plastics, rubber, natural, Butyl caoutchouc (butyl rubber)

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful if swallowed or in contact with skin.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2.000 ^{mg} / _{kg}	rat		ECHA
inhalation: vapour	LC50	>14,5 ^{mg} / _l /4h	rat		ECHA
dermal	LD50	>2.000 ^{mg} / _{kg}	rat		ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea

• If in eyes

slightly irritant

• If inhaled

Irritation to respiratory tract, cough, Dyspnoea

acc. to Regulation (EC) No. 1907/2006 (REACH)

Diisobutyl ketone ≥94 % pure

article number: 7653

• If on skin

has degreasing effect on the skin

Other information

Liver and kidney damage, Headache, Abdominal pain, Narcosis, Nausea, Vertigo, Dizziness, Drowsiness, Vomiting

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (ac	ute)			
Endpoint	Value	Species	Source	Exposure time
LC50	30 ^{mg} / _l	fish	ECHA	24 h
EC50	55,6 ^{mg} / _l	aquatic invertebrates	ECHA	24 h
ErC50	46,9 ^{mg} / _l	algae	ECHA	72 h

12.2 Persistence and degradability

Theoretical Oxygen Demand: 2,924 ^{mg}/_{mg} Theoretical Carbon Dioxide: 2,785 ^{mg}/_{mg}

Biodegradation

The substance is readily biodegradable.

Process of degradability	f degradability		
Process	Degradation rate	Time	
biotic/abiotic	88 %	20 d	
oxygen depletion	4 %	5 d	

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	3,71 (25 °C) (ECHA)
BCF	130 (ECHA)

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

- HP 3 flammable
- HP 5 specific target organ toxicity (STOT)/aspiration toxicity

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number or ID number

ADRRID	UN 1157
IMDG-Code	UN 1157
ICAO-TI	UN 1157
UN proper shipping name	
ADRRID	DIISOBUTYL KETONE
IMDG-Code	DIISOBUTYL KETONE

14.2

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

	ICAO-TI	Diisobutyl ketone
14.3	Transport hazard class(es)	
	ADRRID	3
	IMDG-Code	3
	ICAO-TI	3
14.4	Packing group	
	ADRRID	III
	IMDG-Code	III
	ICAO-TI	III
14.5	Environmental hazards	non-environmentally hazardous acc. to the dan- gerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

Proper shipping name	DIISOBUTYL KETONE
Particulars in the transport document	UN1157, DIISOBUTYL KETONE, 3, III, (D/E)
Classification code	F1
Danger label(s)	3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	D/E
Hazard identification No	30
Emergency Action Code	3Y
Regulations concerning the International Carri information	age of Dangerous Goods by Rail (RID)Additional
Classification code	F1
Danger label(s)	3
Excepted quantities (EQ)	E1

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	30
International Maritime Dangerous Goods Cod	e (IMDG) - Additional information
Proper shipping name	DIISOBUTYL KETONE
Particulars in the shipper's declaration	UN1157, DIISOBUTYL KETONE, 3, III, 49°C c.c.
Marine pollutant	-
Danger label(s)	3
Special provisions (SP)	-
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-D
Stowage category	A
International Civil Aviation Organization (ICA	O-IATA/DGR) - Additional information
Proper shipping name	Diisobutyl ketone
Particulars in the shipper's declaration	UN1157, Diisobutyl ketone, 3, III
Danger label(s)	3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

Seveso Directive

2012/	012/18/EU (Seveso III)			
Νο	Dangerous substance/hazard categories	Qualifying quantity plication of lower quirer		Notes
P5c	flammable liquids (cat. 2, 3)	5.000	50.000	51)

Notation

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

Deco-Paint Directive

VOC content	100 %
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acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

Industrial Emissions Directive (IED)	
VOC content	100 %
Directive on the restriction of the use of electronic equipment (RoHS) not listed	f certain hazardous substances in electrical and
Regulation concerning the establishme Register (PRTR) not listed	nt of a European Pollutant Release and Transfe
Water Framework Directive (WFD) not listed	
Regulation on the marketing and use of not listed	f explosives precursors
Regulation on drug precursors not listed	
Regulation on substances that deplete to not listed	the ozone layer (ODS)
Regulation concerning the export and i not listed	mport of hazardous chemicals (PIC)
Regulation on persistent organic pollut not listed	ants (POP)

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list not listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	No
Diisobutyl ketone	this product meets the criteria for classi- fication in accordance with Regulation No 1272/2008/EC		3
Diisobutyl ketone	flammable / pyrophoric		40

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed

acc. to Regulation (EC) No. 1907/2006 (REACH)

® BOTH

Diisobutyl ketone ≥94 % pure

article number: 7653

Country	Inventory	Status
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
JP	ISHA-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

Legend

Legena	
AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EÌNEĆS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.		yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
15.1		National inventories: change in the listing (table)	yes

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: 7653

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi fier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	= EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 9 lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during specified time interval
LEL	Lower explosion limit (LEL)
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic

acc. to Regulation (EC) No. 1907/2006 (REACH)



Diisobutyl ketone ≥94 % pure

article number: **7653**

Abbr.	Descriptions of used abbreviations	
PNEC Predicted No-Effect Concentration		
ppm Parts per million		
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals	
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)	
STEL	Short-term exposure limit	
TWA	Time-weighted average	
UEL Upper explosion limit (UEL)		
VOC	Volatile Organic Compounds	
vPvB	vPvB Very Persistent and very Bioaccumulative	
WEL	Workplace exposure limit	

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H226	Flammable liquid and vapour.
H335	May cause respiratory irritation.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.