Printing date 20.07.2018 Revision: 06.07.2018

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

- · Trade name: diisopropyl ether
- · CAS Number:

108-20-3

· EC number:

203-560-6

· Index number:

603-045-00-X

- Registration number 01-2119548382-38-0004
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- · Sector of Use
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
 - SU9 Manufacture of fine chemicals
- SU 22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- SU24 Scientific research and development
- SU20 Health services

Product category

- PC1 Adhesives, sealants
- PC4 Anti-Freeze and de-icing products
- PC9a Coatings and paints, thinners, paint removers
- PC9b Fillers, putties, plasters, modelling clay
- PC9c Finger paints
- PC8 Biocidal products (e.g. Disinfectants, pest control)
- PC13 Fuels
- PC15 Non-metal-surface treatment products
- PC16 Heat transfer fluids
- PC17 Hydraulic fluids
- PC18 Ink and toners
- PC20 Products such as ph-regulators, flocculants, precipitants, neutralisation agents
- PC21 Laboratory chemicals
- PC23 Leather tanning, dye, finishing, impregnation and care products
- PC24 Lubricants, greases, release products
- PC31 Polishes and wax blends
- PC34 Textile dyes, finishing and impregnating products; including bleaches and other processing aids
- PC40 Extraction agents

Process category

- PROC1 Use in closed process, no likelihood of exposure
- PROC2 Use in closed, continuous process with occasional controlled exposure
- PROC3 Use in closed batch process (synthesis or formulation)
- PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises
- PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

(Contd. on page 2)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 1)

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC11 Non industrial spraying

PROC13 Treatment of articles by dipping and pouring

PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation

PROC15 Use as laboratory reagent

PROC16 Using material as fuel sources, limited exposure to unburned product to be expected

PROC19 Hand-mixing with intimate contact and only PPE available

PROC20 Heat and pressure transfer fluids in dispersive, professional use but closed systems

PROC21 Low energy manipulation of substances bound in materials and/or articles

Environmental release category

ERC1 Manufacture of substances

ERC2 Formulation of preparations

ERC3 Formulation in materials

ERC4 Industrial use of processing aids in processes and products, not becoming part of articles

ERC5 Industrial use resulting in inclusion into or onto a matrix

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6c Industrial use of monomers for manufacture of thermo-plastics

ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

ERC7 Industrial use of substances in closed systems

ERC8a Wide dispersive indoor use of processing aids in open systems

ERC8d Wide dispersive outdoor use of processing aids in open systems

ERC9a Wide dispersive indoor use of substances in closed systems

ERC9b Wide dispersive outdoor use of substances in closed systems

· Application of the substance / the mixture

API & intermediate synthesis.

Paint thinners and Stain removers.

Extraction agent in metallurgy.

Fule additive.

In organic synthesis and HPLC

(Contd. on page 3)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 2)

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

KAIRAV CHEMOFARBE INDUSTRIES LTD,

502 Filix, LBS Marg,

Opposite Asian Paints, Bhandup (West), Mumbai-400078

· Further information obtainable from:

Tel: +91 22 25968361/62/25962453/25962457

Fax:- +91 22 25958586

www.chemofarbe.com

OR detail

Sustainability Support Services (Europe) AB

Ideon Science Park, Scheelevägen 17, Beta 5, 22370 Lund, Sweden

· 1.4 Emergency telephone number:

Contact details of European importer

Emergency telephone number: 9820353425

Telephone number of EU importer:

Opening hours:

Other Comments (e.g. language(s) of the phone service): English

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



STOT SE 3 H336 May cause drowsiness or dizziness.

- · 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

· Hazard pictograms





GHS02 GHS07

· Signal word Danger

(Contd. on page 4)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 3)

· Hazard statements

H225 Highly flammable liquid and vapour. H336 May cause drowsiness or dizziness.

· Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other

ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/

international regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

PBT: Not a PBT substance.
 vPvB: Not a vPvB substance.

SECTION 3: Composition/information on ingredients

- · 3.1 Chemical characterisation: Substances
- · CAS No. Description

108-20-3 diisopropyl ether

- · Identification number(s)
- · EC number: 203-560-6
- · Index number: 603-045-00-X
- · Additional information:

Molecular formula:C6H14O Molecular weight:102.175g/mol SMILES notation:CC(C)OC(C)C

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information: Take off contaminated clothing and shoes immediately.
- · After inhalation: Move to fresh air.
- · After skin contact: Wash off immediately with plenty of water.
- · After eye contact: Immediately flush eye(s) with plenty of water.
- After swallowing: Obtain medical attention.
- · 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 5)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 4)

4.3 Indication of any immediate medical attention and special treatment neededNo further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- Suitable extinguishing agents:

Dry powder, Carbon dioxide (CO2), Water spray, Alcohol-resistant foam

- For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

General advice: Take off contaminated clothing and shoes immediately.

Inhalation: Move to fresh air.

Skin contact: Wash off immediately with plenty of water.

Eye contact: Immediately flush eye(s) with plenty of water.

Ingestion: Obtain medical attention.

· Protective equipment: Wear fully protective suit.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation.
- 6.2 Environmental precautions:

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

· 6.3 Methods and material for containment and cleaning up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Vapours are heavier than air and may spread along floors. Ensure adequate ventilation. Avoid formation of aerosol.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Advice on protection against fire and explosion:

Vapours may form explosive mixtures with air. Take precautionary measures against static (Contd. on page 6)

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Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 5)

discharges. Use only explosion-proof equipment. Keep away from sources of ignition - No smoking.

· 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep tightly closed in a dry, cool and well-ventilated place. It is urgently recommended to ensure that the oldest stored material is used first

(first in - first out).

Storage classification (VCI system/Germany):

3; Flammable Liquids

Storage period:

< 6 Months

Storage temperature:

< 25 °C

Note:

Check open containers for peroxides after 3 months. It is recommended to inertise the containers when opening.

- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s)

API & intermediate synthesis.

Paint thinners and Stain removers.

Extraction agent in metallurgy.

Fule additive.

In organic synthesis and HPLC

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

For Exposure controls, Occupational exposure Limits and Personal protection advice please consult Safety Data Sheet.

- · Ingredients with limit values that require monitoring at the workplace: Not required.
- · DNELs

Workers - Hazard via inhalation route

Systemic effects

Long term exposure

DNEL (Derived No Effect Level);850 mg/m³

Workers - Hazard via inhalation route

Systemic effects

Acute/short term exposure

DNEL (Derived No Effect Level);1 700 mg/m³

(Contd. on page 7)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 6)

Workers - Hazard via dermal route

Systemic effects Long term exposure

DNEL (Derived No Effect Level);121.4 mg/kg bw/day General Population - Hazard via inhalation route

Workers - Hazard via inhalation route

Systemic effects

Long term exposure

DNEL (Derived No Effect Level);151 mg/m3

Workers - Hazard via inhalation route

Systemic effects

Acute/short term exposure

DNEL (Derived No Effect Level);302 mg/m³

General Population - Hazard via dermal route

Systemic effects

Long term exposure

DNEL (Derived No Effect Level);43.1 mg/kg bw/day

· PNECs

PNEC aqua (freshwater); 0.19 mg/L

PNEC aqua (marine water);0.019 mg/L

PNEC STP: 37 ma/L

PNEC sediment (freshwater); 2.79 mg/kg sediment dw

PNEC sediment (marine water); 0.28 mg/kg sediment dw

PNEC soil; 0.47 mg/kg soil dw

· 8.2 Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 8)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

· Material of gloves

(Contd. of page 7)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

 9.1 Information on basic physical a General Information 	nd chemical properties
· Appearance:	
Form:	liquid
Colour:	Colourless
· Odour:	None reported
· Change in condition	
Melting point/Melting range:	-86 ℃
Boiling point/Boiling range:	68 ℃
· Flash point:	-28 ℃
· Flammability (solid, gaseous):	The substance is a flammable liquid
· Ignition temperature:	405 ℃
· Self-igniting:	Autoflammability / Self-ignition temperature at 101 325 Pa: 688 K
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1 Vol %
Upper:	21 Vol %
· Vapour pressure at 25 ℃:	198.65 hPa
∙ Density at 20 ℃:	0.7233 ±0.0014 g/cm³
· Solubility in / Miscibility with water at 20 ℃:	12 g/l

(Contd. on page 9)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 8)

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic at 25 ℃: 0.379 mPas

• 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

Vapours may form explosive mixture with air. Formation of peroxides possible.

· 10.2 Chemical stability

Test for peroxide formation before using or discard after 3 months.

Stable under recommended storage conditions.

Sensitivity to light, Sensitive to air.

Stabilizer: butyl hydroxytoluene (BHT)

· 10.3 Possibility of hazardous reactions

Exothermic reaction with:

Risk of explosion with:

Aldehydes, Amines, mineral acids, Oxidizing agents, Zinc

10.4 Conditions to avoid

Heat, flames and sparks.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

- 10.5 Incompatible materials: Strong oxidizing agents, various plastics
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.

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Oral	LD50	4600 mg/kg bw (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50	64 mg/L (Monkey)

- Primary irritant effect:
- · Skin corrosion/irritation

(Contd. on page 10)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 9)

skin irritation: in vivo

human

according to OECD Guideline

Coverage: Not applicable; test was conducted in human-derived epidermal keratinocytes Value: 102.3 (- Basis: mean. Time point: 46 h (42 hours and 47 minutes incubation time + 3 h incubation with MTT. Reversibility: no data.

Result: Test substance is considered as a non-irritant in the human skin model test.

· Serious eye damage/irritation

eve irritation in vivo

rabbit (New Zealand White [rabbit]) according to OECD Guideline 405

Result: Not irritating

· Respiratory or skin sensitisation

mouse (CBA/CaOlaHsd)

skin sensitisation: in vivo (LLNA)

according to OECD Guideline 429 (Skin)

Stimulation index: (25% group - 0.75 50% group - 0.71 100% group - 0.80)

Result; non-sensitising Repeated dose toxicity

Repeated dose toxicity: inhalation rat (Sprague-Dawley-derived rats

iat (Sprague-Dawley-derived rats

sub-chronic toxicity: inhalation(inhalation: vapour)

Exposure: 13 weeks (6-hour exposure per day, 5 exposure days per week)

equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

NOAEC: 3300 ppm

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity

Mutagenicity

in vitro mammalian chromosome aberration test Type of genotoxicity: chromosome aberration) equivalent or similar to OECD Guideline 473

met. act.: without Test results:negative

bacterial reverse mutation assay

S. typhimurium TA 1535, TA 1537, TA 98 and TA 100 [bacteria] (Met. act.: with and without)

S. typhimurium TA 1538 [bacteria] (Met. act.: with and without)

E. coli WP2 uvr A pKM 101 [bacteria] (Met. act.: with and without)

Test concentrations: 31.25, 62.5, 125, 250, 500, 1,000, 2,000, 4000, or 8,000 μg/mL equivalent or similar to OECD Guideline 471

Result:

negative with metabolic activation

negative without metabolic activation

- · Carcinogenicity No data available.
- · Reproductive toxicity No data available.

(Contd. on page 11)

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 10)

· STOT-single exposure

May cause drowsiness or dizziness.

- STOT-repeated exposure No data available.
- · Aspiration hazard No data available.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

EC50 (static) >1000 mg/L (Algae) (toxicity to aquatic algae and cyanobacteria)

190 mg/L (Daphnia magna) (short term toxicity to aquatic invertebrates)

LC50 (static) 380 mg/L (Carassius auratus (fresh water)) (short-term toxicity to fish)

12.2 Persistence and degradability

biodegradation in water: ready biodegradability

OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

- · 12.3 Bioaccumulative potential BCF (aguatic species):6 L/kg ww
- · 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- 12.5 Results of PBT and vPvB assessment
- · **PBT**: Not PBT
- · **vPvB:** Not vPvB
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Following pre-treatment and observing the regulations for hazardous wastes, it must be taken to a permitted hazardous wastes landfill or hazardous wastes incinerator.

- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

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Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 11)

SECTION 14: Transport informat	ion
14.1 UN-Number ADR, IMDG, IATA	UN1159
14.2 UN proper shipping name ADR IMDG IATA	1159 DIISOPROPYL ETHER DIISOPROPYL ETHER Diisopropyl ether
14.3 Transport hazard class(es)	
ADR, IMDG, IATA	
Class Label	3 Flammable liquids. 3
14.4 Packing group ADR, IMDG, IATA	II
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user Danger code (Kemler): EMS Number: Stowage Category Stowage Code	Warning: Flammable liquids. 33 F-E,S-D E SW2 Clear of living quarters.
14.7 Transport in bulk according to An II of Marpol and the IBC Code	nnex Not applicable.
Transport/Additional information:	
ADR Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging 30 ml Maximum net quantity per outer packaging
Transport category Tunnel restriction code	500 ml 2 D/E
IMDG Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging:

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether	
	(Contd. of page 12)
,	30 ml
	Maximum net quantity per outer packaging: 500 ml

SECTION 15: Regulatory information

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

UN 1159 DIISOPROPYL ETHER, 3, II

- Labelling according to Regulation (EC) No 1272/2008

 The substance is classified and labelled according to the CLP regulation.
- · Hazard pictograms





· UN "Model Regulation":

GHS02 GHS07

- · Signal word Danger
- · Hazard statements

H225 Highly flammable liquid and vapour. H336 May cause drowsiness or dizziness.

· Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other

ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/

international regulations.

- · Directive 2012/18/EU
- Named dangerous substances ANNEX I Substance is not listed.
- · Seveso category P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
- · 15.2 Chemical safety assessment:

A Chemical Safety Assessment has been carried out.

-11

Printing date 20.07.2018 Revision: 06.07.2018

Trade name: diisopropyl ether

(Contd. of page 13)

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS: Product safety department.

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB:

very Persistent and very Bioaccumulative Flam. Liq.

2: Flammable liquids, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Sources

Data is taken from ECHA registered dossier; https://echa.europa.eu/registration-dossier/-/registered-dossier/15860/1

* Data compared to the previous version altered.

- Section 1: Identification of the substance/preparation & of the company/undertaking.
- Section 3: Composition/Information on Ingredients
- · Section 4: First-aid measures
- Section 5: First-fighting measures
- · Section 6: Accidental release measures
- Section 7: Handling and storage.
- Section 8: Exposure controls/Personal Protection.
- · Section 9: Physical and Chemical properties.
- · Section 10: Stability and Reactivity.
- Section 11: Toxicology Information
- Section 12: Ecological Information
- Section 13: Disposable consideration
- Section14:Transport Information
- Section 15: Regulatory Information

-11