DOW CORNING

MOLYKOTE(R) MKL-N GREASE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1.0	28.01.2015	1204637-00001	Date of first issue: 28.01.2015

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

1.1 Product identifier

Trade name : MOLYKOTE(R) MKL-N GREASE

Product code : 000000000001206524

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

Use of the Substance/Mixture : Lubricants and lubricant additives

1.3 Details of the supplier of the safety data sheet

Company : Dow Corning Europe S.A.
rue Jules Bordet - Parc Industriel - Zone C
B-7180 Seneffe

Telephone : English Tel: +49 611237507
Deutsch Tel: +49 611237500
Français Tel: +32 64511149
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E-mail address of person responsible for the SDS : sdseu@dowcorning.com

1.4 Emergency telephone number

Dow Corning (Barry U.K. 24h) Tél: +44 1446732350
Dow Corning (Wiesbaden 24h) Tél: +49 61122158
Dow Corning (Seneffe 24h) Tel: +32 64 888240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.

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

Flammable	R10: Flammable.
	R66: Repeated exposure may cause skin dryness or cracking.
	R67: Vapours may cause drowsiness and dizziness.

Dangerous for the environment	R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

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

Supplemental Hazard Statements :

EUH066	Repeated exposure may cause skin dryness or cracking.

Precautionary statements :

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

Hazardous components which must be listed on the label:
n-Butyl acetate

2.3 Other hazards

Static-accumulating flammable liquid.
Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Inorganic and organic compounds

Mixture

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
n-Butyl acetate	123-86-4 204-658-1 01-2119485493-29	R10 R66-R67	Flam. Liq. 3; H226 STOT SE 3; H336	>= 15 - < 20
Naphtha (petroleum), hydrotreated heavy	64742-48-9 265-150-3	R10 Xn; R65 R66-R67	Flam. Liq. 3; H226 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 15 - < 20
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0 265-169-7	Xn; R65	Asp. Tox. 1; H304	>= 10 - < 20
Diphenyl- (2-ethylhexyl) -phosphate	1241-94-7 214-987-2	N; R50/53	Aquatic Acute 1; H400 Aquatic Chronic 2; H411	>= 0.25 - < 1
Substances with a workplace exposure limit :				
2-Methoxy-1-methylethyl acetate	108-65-6 203-603-9	R10	Flam. Liq. 3; H226	>= 10 - < 20

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact	:	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Dry chemical Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Ensure all equipment is electrically grounded before beginning transfer operations.
This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before beginning transfer operations.

Restrict flow velocity in order to reduce the accumulation of static electricity.

Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

7.3 Specific end use(s)

Specific use(s) : These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.
For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
n-Butyl acetate	123-86-4	TWA	150 ppm 724 mg/m3	GB EH40
		STEL	200 ppm 966 mg/m3	GB EH40
2-Methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm 275 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 550 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	50 ppm 274 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 548 mg/m3	GB EH40
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

n-Butyl acetate : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 960 mg/m3
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 960 mg/m3
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 480 mg/m3
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 480 mg/m3
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 859.7 mg/m3
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 859.7 mg/m3

		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 102.34 mg/m3 End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 102.34 mg/m3
2-Methoxy-1-methylethyl acetate	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 275 mg/m3 End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 153.5 mg/m3 End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 33 mg/m3 End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 54.8 mg/m3 End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 1.67 mg/m3
Diphenyl- (2-ethylhexyl) - phosphate	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 5.11 mg/m3 End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 0.73 mg/kg bw/day End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 1.54 mg/m3 End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 0.44 mg/kg bw/day End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 0.44 mg/kg bw/day End Use: Workers Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 40.88 mg/m3 End Use: Workers Exposure routes: Skin contact

Potential health effects: Acute systemic effects
Value: 5.84 mg/kg bw/day
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 58.45 mg/m3
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects
Value: 52.67 mg/kg bw/day
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Acute systemic effects
Value: 16.7 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

n-Butyl acetate	:	Fresh water Value: 0.18 mg/l Marine water Value: 0.018 mg/l Intermittent use/release Value: 0.36 mg/l Sewage treatment plant Value: 35.6 mg/l Fresh water sediment Value: 0.981 mg/kg Marine sediment Value: 0.0981 mg/kg Soil Value: 0.0903 mg/kg
2-Methoxy-1-methylethyl acetate	:	Fresh water Value: 0.635 mg/l Marine water Value: 0.0635 mg/l Intermittent use/release Value: 6.35 mg/l Sewage treatment plant Value: 100 mg/l Fresh water sediment Value: 3.29 mg/kg Marine sediment Value: 0.329 mg/kg Soil Value: 0.29 mg/kg
Residual oils (petroleum), solvent-dewaxed	:	Oral Value: 9.33 mg/kg
Diphenyl- (2-ethylhexyl) - phosphate	:	Fresh water Value: 1.8 µg/l Marine water Value: 0.18 µg/l Intermittent use/release Value: 1.5 µg/l Sewage treatment plant Value: 100 mg/l

Fresh water sediment
Value: 5.8 mg/kg
Marine sediment
Value: 0.58 mg/kg
Soil
Value: 1.16 mg/kg
Oral
Value: 3.86 mg/kg

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

Personal protective equipment

Eye protection : Wear the following personal protective equipment:
Safety glasses

Hand protection
Material : Antistatic gloves
Impervious gloves
Flame retardant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
Flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour	:	black
Odour	:	ester-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> 100 °C
Flash point	:	22.5 °C Method: Tag closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	0.87
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	4,000 mm2/s
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Highly flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.
When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours.
Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.

10.4 Conditions to avoid

Conditions to avoid : Handling operations that can promote accumulation of static charges.
Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:

n-Butyl acetate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 21.1 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

Naphtha (petroleum), hydrotreated heavy:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4,951 mg/m3
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:

Acute oral toxicity : LD50 (Rat): > 15,800 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.8 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

2-Methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 1728 ppm
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

n-Butyl acetate:
Assessment: Repeated exposure may cause skin dryness or cracking.

Naphtha (petroleum), hydrotreated heavy:
Species: Rabbit
Result: Mild skin irritation

Assessment: Repeated exposure may cause skin dryness or cracking.

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:
Species: Rabbit
Result: No skin irritation

2-Methoxy-1-methylethyl acetate:
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

n-Butyl acetate:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Naphtha (petroleum), hydrotreated heavy:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:
Species: Rabbit
Result: No eye irritation

2-Methoxy-1-methylethyl acetate:
Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

Components:

n-Butyl acetate:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Naphtha (petroleum), hydrotreated heavy:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

2-Methoxy-1-methylethyl acetate:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Components:

n-Butyl acetate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	:	Test Type: Chromosome aberration test in vitro Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative

Naphtha (petroleum), hydrotreated heavy:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Ingestion
Result: negative

2-Methoxy-1-methylethyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Naphtha (petroleum), hydrotreated heavy:
Species: Rat
Application Route: inhalation (vapour)
Exposure time: 105 weeks
Result: negative
Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Mouse
Application Route: Skin contact
Exposure time: 78 weeks

Method: OECD Test Guideline 451
Result: negative

2-Methoxy-1-methylethyl acetate:
Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 Years
Result: negative
Remarks: Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

Components:

n-Butyl acetate:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative

Naphtha (petroleum), hydrotreated heavy:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: inhalation (vapour) Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Skin contact Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

2-Methoxy-1-methylethyl acetate:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

STOT - single exposure

May cause drowsiness or dizziness.

Components:

n-Butyl acetate:
Assessment: May cause drowsiness or dizziness.

Naphtha (petroleum), hydrotreated heavy:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

n-Butyl acetate:
Species: Rat
NOAEL: 2.4 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 d

Naphtha (petroleum), hydrotreated heavy:
Species: Rat
NOAEL: 10,186 mg/m3
Application Route: inhalation (vapour)
Exposure time: 13 w

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Species: Rabbit
NOAEL: 1,000 mg/kg
Application Route: Skin contact
Exposure time: 4 w
Method: OECD Test Guideline 410

Remarks: Based on data from similar materials

Species: Rat
NOAEL: > 980 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 4 w
Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:
Species: Rat
LOAEL: 174 mg/kg
Application Route: Ingestion
Exposure time: 90 d

2-Methoxy-1-methylethyl acetate:
Species: Rat
NOAEL: > 1,000 mg/kg
Application Route: Ingestion
Exposure time: 41 - 45 d
Method: OECD Test Guideline 422

Species: Mouse
NOAEL: 1.62 mg/l
Application Route: inhalation (vapour)
Exposure time: 2 y
Remarks: Based on data from similar materials

Species: Rabbit
NOAEL: > 1,000 mg/kg
Application Route: Skin contact
Exposure time: 21 d
Remarks: Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Components:

Naphtha (petroleum), hydrotreated heavy:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Distillates (petroleum), solvent-dewaxed heavy paraffinic:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

SECTION 12: Ecological information

12.1 Toxicity

Components:

n-Butyl acetate:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 18 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 44 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (green algae)): 674.7 mg/l Exposure time: 72 h NOEC (Desmodesmus subspicatus (green algae)): 200 mg/l Exposure time: 72 h
Toxicity to bacteria	:	IC50 (Protozoa): 356 mg/l Exposure time: 40 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 23 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Naphtha (petroleum), hydrotreated heavy:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 30 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 22 - 46 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOELR (Pseudokirchneriella subcapitata (green algae)): 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

aquatic invertebrates		Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to bacteria	:	NOEC : > 1.93 mg/l Exposure time: 10 min Method: DIN 38 412 Part 8 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

Diphenyl- (2-ethylhexyl) -phosphate:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Chironomus sp. (midge)): 0.67 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): 0.12 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): 0.072 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.021 mg/l Exposure time: 71 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.018 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

2-Methoxy-1-methylethyl acetate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 500 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): >

1,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to bacteria : EC10 : > 1,000 mg/l
Exposure time: 0.5 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 100 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

12.2 Persistence and degradability

Components:

n-Butyl acetate:

Biodegradability : Result: Readily biodegradable
Biodegradation: 96 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Naphtha (petroleum), hydrotreated heavy:

Biodegradability : Result: Readily biodegradable
Biodegradation: 89 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 2 - 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Diphenyl- (2-ethylhexyl) -phosphate:

Biodegradability : Result: Readily biodegradable
Biodegradation: 70.8 %
Exposure time: 15 d
Method: OECD Test Guideline 301B

2-Methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily biodegradable
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Components:

n-Butyl acetate:

Partition coefficient: n-octanol/water : log Pow: 2.3

Diphenyl- (2-ethylhexyl) -phosphate:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 934

Partition coefficient: n-octanol/water : log Pow: 5.87

2-Methoxy-1-methylethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1.2

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1993

ADR : UN 1993

RID : UN 1993

IMDG : UN 1993

IATA : UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S.
(n-Butyl acetate, Naphtha (petroleum), hydrotreated heavy)

ADR	:	FLAMMABLE LIQUID, N.O.S. (n-Butyl acetate, Naphtha (petroleum), hydrotreated heavy)
RID	:	FLAMMABLE LIQUID, N.O.S. (n-Butyl acetate, Naphtha (petroleum), hydrotreated heavy)
IMDG	:	FLAMMABLE LIQUID, N.O.S. (n-Butyl acetate, Naphtha (petroleum), hydrotreated heavy)
IATA	:	Flammable liquid, n.o.s. (n-Butyl acetate, Naphtha (petroleum), hydrotreated heavy)

14.3 Transport hazard class(es)

ADN	:	3
ADR	:	3
RID	:	3
IMDG	:	3
IATA	:	3

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3

ADR

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3
Tunnel restriction code	:	(D/E)

RID

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3

IMDG

Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-E

IATA

Packing instruction (cargo aircraft)	:	364
Packing instruction (passenger aircraft)	:	353
Packing instruction (LQ)	:	Y341
Packing group	:	II
Labels	:	Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

Not applicable

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

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

		Quantity 1	Quantity 2
6	Flammable.	5,000 t	50,000 t
13	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams)	2,500 t	25,000 t

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t

34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t

Other regulations : Take note of Dir 94/33/EC on the protection of young people at work.

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

KECI : One or more ingredients are not listed or exempt.

REACH : All ingredients (pre-)registered or exempt.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

ENCS/ISHL : Some components are not listed or not identified on ENCS/ISHL.

PICCS : Consult your local Dow Corning office.

NZIoC : All ingredients listed or exempt.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of R-Phrases

R10	:	Flammable.
R50/53	:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	:	Harmful: may cause lung damage if swallowed.
R66	:	Repeated exposure may cause skin dryness or cracking.
R67	:	Vapours may cause drowsiness and dizziness.

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H304	:	May be fatal if swallowed and enters airways.
H336	:	May cause drowsiness or dizziness.
H400	:	Very toxic to aquatic life.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Asp. Tox.	:	Aspiration hazard
Flam. Liq.	:	Flammable liquids
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN