



SAFETY DATA SHEET

SPECIALTY ELECTRONIC MATERIALS BELGIUM, BVBA

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: MOLYKOTE® Polygliss-N Adhesive
Transparent Lubricant, Spray

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SPECIALTY ELECTRONIC MATERIALS BELGIUM, BVBA encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: MOLYKOTE® Polygliss-N Adhesive Transparent Lubricant, Spray

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

Identified uses: Lubricants and lubricant additives

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

SPECIALTY ELECTRONIC MATERIALS
BELGIUM, BVBA
INDUSTRIEL PARC - ZONE C
RUE JULES BORDET
7180 SENEFFE
BELGIUM

Customer Information Number:

800-3876-6838
SDSQuestion-EU@dupont.com

1.4 EMERGENCY TELEPHONE NUMBER

Local Emergency Contact: +(32)-28083237

In case of emergency, contact Belgium Poison Center: 070/245.245

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Aerosols - Category 1 - H222, H229

Specific target organ toxicity - single exposure - Category 3 - H336

Long-term (chronic) aquatic hazard - Category 3 - H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

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

Hazard pictograms



Signal word: DANGER

Hazard statements

- H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P271 Use only outdoors or in a well-ventilated area.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Supplemental information

- EUH208 Contains: dipentene; citral. May produce an allergic reaction.

Contains Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

2.3 Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Organic compound in solvent

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
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CASRN 64742-48-9 EC-No. 919-857-5 Index-No. 649-327-00-6	01-2119463258-33	>= 58,0 - <= 60,0 %	Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha	Flam. Liq. - 3 - H226 STOT SE - 3 - H336 Asp. Tox. - 1 - H304 Aquatic Chronic - 3 - H412
CASRN 64741-88-4 EC-No. 265-090-8 Index-No. 649-454-00-7	—	>= 33,0 - <= 35,0 %	Distillates (petroleum), solvent-refined heavy paraffinic	Asp. Tox. - 1 - H304
CASRN 138-86-3 EC-No. 205-341-0 Index-No. 601-029-00-7	—	>= 0,18 - <= 0,24 %	dipentene	Flam. Liq. - 3 - H226 Skin Irrit. - 2 - H315 Skin Sens. - 1 - H317 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
CASRN 5392-40-5 EC-No. 226-394-6 Index-No. 605-019-00-3	—	>= 0,1 - <= 0,14 %	citral	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319 Skin Sens. - 1 - H317 Asp. Tox. - 1 - H304

Substances with a workplace exposure limit

CASRN 64742-65-0 EC-No. 265-169-7 Index-No. 649-474-00-6	—	>= 7,0 - <= 8,0 %	Distillates (petroleum), solvent-dewaxed heavy paraffinic	Not classified
CASRN 124-38-9 EC-No. 204-696-9 Index-No. —	—	>= 1,7 - <= 2,3 %	Carbon dioxide	Press. Gas - Liquefied gas - H280

For the full text of the H-Statements mentioned in this Section, see Section 16.

Note

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

The classification as a carcinogen need not to apply because the substance contains less than 3% DMSO extract as measured by IP 346. Note L of Annex VI to Regulation (EC) 1272/2008.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

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

Unsuitable extinguishing media: Do not use direct water stream.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides Formaldehyde

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance. May form explosive mixtures in air. Exposure to combustion products may be a hazard to health. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Vapours may form explosive mixtures with air.

5.3 Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use a solid water stream as it may scatter and spread fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions: Do not release the product to the aquatic environment above defined regulatory levels. 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 materials for containment and 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. 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. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, 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: Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Avoid contact with eyes. 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. Handle in accordance with good industrial hygiene and safety practice. Do not spray on an open flame or other ignition source.

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.

Do not store with the following product types: Self-reactive substances and mixtures. 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. Oxidizing agents.

Unsuitable materials for containers: None known.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Distillates (petroleum), solvent-refined heavy paraffinic	ACGIH		(L)
	ACGIH	TWA Inhalable fraction	5 mg/m3
	ACGIH		(L)
	BE OEL	TLV 8 hr Mist	5 mg/m3
	BE OEL	TLV 15 min Mist	10 mg/m3
citral	ACGIH	TWA Inhalable fraction and vapor	5 ppm
	ACGIH	TWA	SKIN, DSEN
Distillates (petroleum), solvent-dewaxed heavy paraffinic	ACGIH	TWA Inhalable fraction	5 mg/m3
	BE OEL	TLV 8 hr Mist	5 mg/m3
	BE OEL	TLV 15 min Mist	10 mg/m3
Carbon dioxide	ACGIH	TWA	5 000 ppm
	ACGIH	STEL	30 000 ppm
	Dow IHG	TWA	5 000 ppm
	Dow IHG	STEL	30 000 ppm
	2006/15/EC	TWA	9 000 mg/m3 5 000 ppm
	BE OEL	TLV 8 hr	9 131 mg/m3 5 000 ppm
	BE OEL	TLV 15 min	54 784 mg/m3 30 000 ppm

Derived No Effect Level

citral

Workers

Acute systemic effects	Acute local effects	Long-term systemic effects	Long-term local effects
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Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	1,7 mg/kg bw/day	9 mg/m3	0,140 mg/cm2	n.a.

Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	1 mg/kg bw/day	2,7 mg/m3	0,6 mg/kg bw/day	0,140 mg/cm2	n.a.

Predicted No Effect Concentration

Distillates (petroleum), solvent-refined heavy paraffinic

Compartment	PNEC
Oral (Secondary Poisoning)	9,33 mg/kg food

citral

Compartment	PNEC
Fresh water	0,00678 mg/l
Marine water	0,000678 mg/l
Intermittent use/release	0,0678 mg/l
Sewage treatment plant	1,6 mg/l
Fresh water sediment	0,125 mg/kg
Marine sediment	0,0125 mg/kg
Soil	0,0209 mg/kg

8.2 Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. In confined or poorly ventilated areas, this material may deplete oxygen potentially creating life threatening conditions.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the

level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Aerosol containing a dissolved gas
Color	colourless
Odor	slight
Odor Threshold	No data available
pH	Not applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	Not applicable
Flash point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Extremely flammable aerosol.
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available

Relative Density (water = 1)	0,80
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight	No data available
Particle size	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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: Can react with strong oxidizing agents. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Vapours may form explosive mixture with air. Extremely flammable aerosol.

10.4 Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 5 000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, Rabbit, male, > 2 000 mg/kg

Acute inhalation toxicity

Prolonged excessive exposure may cause adverse effects. In confined or poorly ventilated areas, this material may deplete oxygen. May cause central nervous system effects. May cause respiratory tract irritation.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight eye irritation.

Sensitization

For skin sensitization:

Contains component(s) which have demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Contains component(s) which are classified as specific target organ toxicant, single exposure, category 3.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Contains component(s) which have been reported to cause effects on the following organs in animals:
Liver.

Experiments with humans and animals suggest that continued exposure to 1.5% carbon dioxide may alter physiological processes, such as acid-base and electrolyte balance in the blood, calcium-phosphorus metabolism, and neuroendocrine activity.

Carcinogenicity

Contains component(s) which did not cause cancer in laboratory animals.

Teratogenicity

Contains component(s) which, in laboratory animals, have been toxic to the fetus only at doses toxic to the mother.

Reproductive toxicity

Contains component(s) which did not interfere with reproduction in animal studies.

Mutagenicity

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Contains component(s) which were negative in some animal genetic toxicity studies and positive in others.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

Acute inhalation toxicity

Based on data from similar materials LC50, Rat, 4 Hour, vapour, > 4 951 mg/m3

Distillates (petroleum), solvent-refined heavy paraffinic

Acute inhalation toxicity

The LC50 has not been determined.

dipentene

Acute inhalation toxicity

Brief exposure (minutes) is not likely to cause adverse effects. Prolonged excessive exposure may cause adverse effects. Vapor may cause irritation of the upper respiratory tract (nose and throat) and lungs. Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

The LC50 has not been determined.

citral

Acute inhalation toxicity

No deaths occurred following exposure to a saturated atmosphere. LC50, Rat, 7 Hour, vapour, > 0,68 mg/l

Distillates (petroleum), solvent-dewaxed heavy paraffinic

Acute inhalation toxicity

LC50, Rat, male and female, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

Carbon dioxide

Acute inhalation toxicity

LC50, Rat, 4 hrs, gas, 58750 ppm

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

Acute toxicity to fish

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

Based on data from similar materials

LL50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 10 - 30 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EL50, Daphnia magna (Water flea), 48 Hour, > 22 - 46 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 1 000 mg/l, OECD Test Guideline 201

Based on data from similar materials

NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 1 mg/l, OECD Test Guideline 201

Distillates (petroleum), solvent-refined heavy paraffinic

Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 1 000 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, > 1 000 mg/l

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Biomass, > 1 000 mg/l

Toxicity to bacteria

Based on data from similar materials

NOEC, 10 min, > 1,93 mg/l, DIN 38 412 Part 8

Chronic toxicity to fish

NOEC, Pimephales promelas (fathead minnow), 7 d, survival, > 5 000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, > 1 000 mg/l

dipentene

Acute toxicity to fish

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 0,7 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), Static, 48 Hour, 0,36 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, >1,81 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, 3 Hour, 209 mg/l

citral

Acute toxicity to fish

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, Leuciscus idus (Golden orfe), Static, 96 Hour, 6,78 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna, Static, 48 Hour, 6,8 mg/l

Acute toxicity to algae/aquatic plants

EC50, Desmodesmus subspicatus (green algae), Static, 72 Hour, 103,8 mg/l

Toxicity to bacteria

EC50, 30 min, 160 mg/l, OECD Test Guideline 209

Distillates (petroleum), solvent-dewaxed heavy paraffinic

Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LL50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates

EL50, Daphnia magna (Water flea), static test, 48 Hour, > 10 000 mg/l

Acute toxicity to algae/aquatic plants

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 100 mg/l

Toxicity to bacteria

Based on data from similar materials

NOEC, 10 min, > 1,93 mg/l, DIN 38 412 Part 8

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, 10 mg/l

Carbon dioxide

Acute toxicity to fish

May decrease pH of aquatic systems to < pH 5 which may be toxic to aquatic organisms.

LC0, Oncorhynchus mykiss (rainbow trout), 1 Hour, 240 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

12.2 Persistence and degradability

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Based on data from similar materials 10-day Window: Pass

Biodegradation: 89 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

Distillates (petroleum), solvent-refined heavy paraffinic

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

10-day Window: Fail

Biodegradation: 6 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

dipentene

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Not applicable

Biodegradation: 41 - 98 %

Exposure time: 14 d

Method: OECD Test Guideline 301C

Theoretical Oxygen Demand: 3,29 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals

Atmospheric half-life: 0,88 Hour

Method: Estimated.

citral

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 85 - 95 %

Exposure time: 28 d

Method: OECD Test Guideline 301C

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals

Atmospheric half-life: 0,079 d

Method: Estimated.

Distillates (petroleum), solvent-dewaxed heavy paraffinic

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 2 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

Carbon dioxide

Biodegradability: Biodegradation is not applicable.

12.3 Bioaccumulative potential

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

Bioaccumulation: No relevant data found.

Distillates (petroleum), solvent-refined heavy paraffinic

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 3,9 - 6 Estimated.

dipentene

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 4,38 estimated

Bioconcentration factor (BCF): 360 - 660 Fish Estimated.

citral

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2,76

Bioconcentration factor (BCF): 89,72 Fish

Distillates (petroleum), solvent-dewaxed heavy paraffinic

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 3,9 - 6 Estimated.

Carbon dioxide

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0,83 Measured

12.4 Mobility in soil

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

No relevant data found.

Distillates (petroleum), solvent-refined heavy paraffinic

No relevant data found.

dipentene

Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient (Koc): 1300 Estimated.

citral

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 48 - 400 Estimated.

Distillates (petroleum), solvent-dewaxed heavy paraffinic

No relevant data found.

Carbon dioxide

No relevant data found.

12.5 Results of PBT and vPvB assessment

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Distillates (petroleum), solvent-refined heavy paraffinic

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

dipentene

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

citral

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Distillates (petroleum), solvent-dewaxed heavy paraffinic

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Carbon dioxide

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Other adverse effects

Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Distillates (petroleum), solvent-refined heavy paraffinic

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

dipentene

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

citral

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Distillates (petroleum), solvent-dewaxed heavy paraffinic

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Carbon dioxide

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1	UN number	UN 1950
14.2	UN proper shipping name	AEROSOLS
14.3	Transport hazard class(es)	2.1
14.4	Packing group	Not applicable
14.5	Environmental hazards	Not considered environmentally hazardous based on available data.
14.6	Special precautions for user	No data available.

Classification for SEA transport (IMO-IMDG):

14.1	UN number	UN 1950
14.2	UN proper shipping name	AEROSOLS
14.3	Transport hazard class(es)	2.1
14.4	Packing group	Not applicable
14.5	Environmental hazards	Not considered as marine pollutant based on available data.
14.6	Special precautions for user	EmS: F-D, S-U
14.7	Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	UN number	UN 1950
14.2	UN proper shipping name	Aerosols, flammable
14.3	Transport hazard class(es)	2.1
14.4	Packing group	Not applicable
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

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

REACH Regulation (EC) No 1907/2006

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

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

Listed in Regulation: FLAMMABLE AEROSOLS

Number in Regulation: P3b

5 000 t

50 000 t

Listed in Regulation: 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)

Number in Regulation: 34

2 500 t

25 000 t

Further information

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

Not applicable

SECTION 16: OTHER INFORMATION

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

H222	Extremely flammable aerosol.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Aerosol - 1 - H222 - Based on product data or assessment

STOT SE - 3 - H336 - Calculation method

Aquatic Chronic - 3 - H412 - Calculation method

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

(L)	Exposure by all routes should be carefully controlled to levels as low as possible.
2006/15/EC	Europe. Indicative occupational exposure limit values
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
BE OEL	Belgium. Occupational exposure limit values
Dow IHG	Dow Industrial Hygiene Guideline
SKIN, DSEN	Absorbed via Skin, Skin Sensitizer
STEL	Short term exposure limit
TLV 15 min	Short term exposure limit
TLV 8 hr	Long term exposure limit
TWA	Time weighted average
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
Press. Gas	Gases under pressure
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation
STOT SE	Specific target organ toxicity - single exposure

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea

Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

SPECIALTY ELECTRONIC MATERIALS BELGIUM, BVBA urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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