SAFETY DATA SHEET

DOW EUROPE GMBH

Safety Data Sheet according to Reg. (EU) 2020/878

Product name: DOWSIL™ 92-023 Primer

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DOW EUROPE GMBH 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: DOWSIL™ 92-023 Primer
UFI: 45V7-10EH-N005-YWD2

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Adhesive, binding agents

1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION
DOW EUROPE GMBH
BACHTOBELSTRASSE 3
8810 HORGEN
SWITZERLAND

Customer Information Number: 31 115 67 2626
SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 00 41 447 28 2820
Local Emergency Contact: + 46 / 418 450 490

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Flammable liquids - Category 2 - H225
Skin irritation - Category 2 - H315
Serious eye damage - Category 1 - H318
Specific target organ toxicity - single exposure - Category 3 - H336
Aspiration hazard - Category 1 - H304
Long-term (chronic) aquatic hazard - Category 2 - H411
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

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H411	Toxic 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.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER and/or doctor.
P331	Do NOT induce vomiting.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391	Collect spillage.

Contains Naphtha (petroleum), hydrotreated light; Tetra n-Butyl titanate

2.3 Other hazards

Static-accumulating flammable liquid.
This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.

Endocrine disrupting properties

Environment:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Human Health:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone 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
CASRN 64742-49-0 **EC-No.** 265-151-9 **Index-No.** 649-328-00-1	01-2119473851-33	>= 84,0 - <= 89,0 %	Naphtha (petroleum), hydrotreated light	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 Acute toxicity estimate Acute oral toxicity: > 5 000 mg/kg Acute inhalation toxicity: > 12,0 mg/l, 6 Hour, vapour Acute dermal toxicity: > 2 000 mg/kg
CASRN 2551-83-9 **EC-No.** 219-855-8 **Index-No.** –	–	>= 7,0 - <= 9,0 %	Allyltrimethoxysilane	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute toxicity estimate Acute oral toxicity: 7 120 mg/kg 7 236 mg/kg Acute inhalation toxicity: 16,8 mg/l, 4 Hour, vapour Acute dermal toxicity: 3 259 mg/kg 3 880 mg/kg
CASRN 5593-70-4 **EC-No.** 227-006-8 **Index-No.** –	01-2119967423-33	>= 4,5 - <= 6,0 %	Tetra n-Butyl titanate	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Acute toxicity estimate Acute oral toxicity: 4 220 mg/kg Acute inhalation toxicity:

				11 mg/l, 4 Hour, dust/mist Acute dermal toxicity: 5 300 mg/kg

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

Note
Naphtha (petroleum), hydrotreated light:
The classification as a carcinogen or mutagen need not to apply because the substance contains less than 0.1% w/w benzene (EINECS No 200-753-7). Note P 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 and keep comfortable for breathing. 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: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

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. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis. Repeated excessive exposure may aggravate preexisting lung disease.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam. Dry sand. Dry chemical.

Unsuitable extinguishing media: High volume water jet. Do not use direct water stream..

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Silicon oxides. Carbon oxides. Metal oxides.

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.. Flammable mixtures may exist within the vapor space of containers at room temperature.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Vapours may form explosive mixtures with air..

5.3 Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. 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. Remove undamaged containers from fire area if it is safe to do so.

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. Ventilate the area. Use personal protective equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. 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 absorbant. 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, store recovered material in appropriate container.

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. Do not get in eyes. 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. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.
Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. 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 isnecessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

7.2 Conditions for safe storage, including any incompatibilities: 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.

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.
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
methanol	ACGIH	TWA	200 ppm
	Further information: Skin: Danger of cutaneous absorption		
	ACGIH	STEL	250 ppm
	Further information: Skin: Danger of cutaneous absorption		
	2006/15/EC	TWA	260 mg/m3 200 ppm
	Further information: Indicative; skin: Identifies the possibility of significant uptake through the skin		
	RS OEL	GVI	260 mg/m3 200 ppm

	Further information: K: This chemical substance can adversely affect the skin.; EU**: Substance mentioned in indicative exposure limit values in Directive 2006/15 / EC (second list)		
1-Butanol	ACGIH	TWA	20 ppm

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:, Methanol., butanol

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Recommended monitoring procedures
Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents); European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.
Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany.
L'Institut National de Recherche et de Securité, (INRS), France.

Derived No Effect Level
Tetra n-Butyl titanate
Workers

Acute systemic effects		*Acute local effects*		*Long-term systemic effects*		*Long-term local effects*	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	127 mg/m3	n.a.	n.a.

Consumers

Acute systemic effects	*Acute local effects*	*Long-term systemic effects*	*Long-term local*

								effects	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	37,5 mg/kg bw/day	152 mg/m3	3,75 mg/kg bw/day	n.a.	n.a.

Predicted No Effect Concentration
Tetra n-Butyl titanate

Compartment	**PNEC**
Fresh water	0,08 mg/l
Marine water	0,008 mg/l
Intermittent use/release	2,25 mg/l
Soil	0,017 mg/kg d.w.
Marine sediment	0,007 mg/kg
Sewage treatment plant	65 mg/l
Fresh water sediment	0,069 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.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator (meeting standard EN 136) with organic vapor cartridge (meeting standard EN 14387).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. 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. Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 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: Wear clean, body-covering clothing.

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. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

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	liquid
Color	in accordance with the product description
Odor	slight
Odor Threshold	No data available
pH	Not applicable, substance/mixture is non-soluble (in water)
Melting point/freezing point	
Melting point/range	No data available
Freezing point	not determined
Boiling point or initial boiling point and boiling range	
Boiling point (760 mmHg)	> 90 °C
Flash point	**Seta closed cup** 7 °C
Flammability (solid, gas)	Not applicable
Flammability (liquids)	not determined
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)	0,71
Solubility(ies)	
Water solubility	insoluble
Partition coefficient: n-octanol/water	not determined
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	0,63 cSt at 25 °C
Particle characteristics	

Particle size	Not applicable

9.2 Other information

Molecular weight	No data available
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Self-heating substances	The substance or mixture is not classified as self heating.
Metal corrosion rate	Not corrosive to metals
Evaporation Rate (Butyl Acetate = 1)	No data available

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. Vapours may form explosive mixture with air. Highly flammable liquid and vapour.

10.4 Conditions to avoid: Avoid static discharge. Heat, flames and sparks.

10.5 Incompatible materials: Avoid contact with oxidizing materials.

10.6 Hazardous decomposition products:
Decomposition products can include and are not limited to: Methanol. Butanol.

SECTION 11: TOXICOLOGICAL INFORMATION

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

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure
Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

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.

Information for components:

Naphtha (petroleum), hydrotreated light
Typical for this family of materials. LD50, Rat, > 5 000 mg/kg

Allyltrimethoxysilane
For similar material(s): LD50, Rat, male, 7 120 mg/kg

For similar material(s): LD50, Rat, female, 7 236 mg/kg

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

Tetra n-Butyl titanate
LD50, Rat, male, 4 220 mg/kg

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, > 2 000 mg/kg Estimated.

Information for components:

Naphtha (petroleum), hydrotreated light
Typical for this family of materials. LD50, Rabbit, > 2 000 mg/kg

Allyltrimethoxysilane
For similar material(s): LD50, Rabbit, female, 3 259 mg/kg

For similar material(s): LD50, Rabbit, male, 3 880 mg/kg

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

Tetra n-Butyl titanate
LD50, Rabbit, 5 300 mg/kg

Acute inhalation toxicity
Vapor concentrations are attainable which could be hazardous on single exposure. Vapor may cause irritation of the upper respiratory tract (nose and throat) and lungs. May cause central nervous system effects. May cause abdominal discomfort or diarrhea.

As product: The LC50 has not been determined.

Information for components:

Naphtha (petroleum), hydrotreated light
Typical for this family of materials. LC50, Rat, 6 Hour, vapour, > 12,0 mg/l

Allyltrimethoxysilane
The LC50 has not been determined.

For similar material(s): LC50, Rat, male and female, 4 Hour, vapour, 16,8 mg/l

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

Tetra n-Butyl titanate
LC50, Rat, 4 Hour, dust/mist, 11 mg/l

Skin corrosion/irritation
Based on information for component(s):
Prolonged contact may cause moderate skin irritation with local redness.
May cause drying and flaking of the skin.

Information for components:

Naphtha (petroleum), hydrotreated light
Prolonged contact may cause skin irritation with local redness.
May cause drying and flaking of the skin.

Allyltrimethoxysilane
For similar material(s):
Brief contact is essentially nonirritating to skin.

Tetra n-Butyl titanate
Prolonged contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation
Based on information for component(s):
May cause moderate eye irritation.
May cause severe corneal injury.
May cause permanent impairment of vision.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Information for components:

Naphtha (petroleum), hydrotreated light
May cause slight eye irritation.
Corneal injury is unlikely.

Allyltrimethoxysilane
For similar material(s):
May cause slight temporary eye irritation.
Corneal injury is unlikely.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Tetra n-Butyl titanate
May cause moderate eye irritation.
May cause severe corneal injury.
May cause permanent impairment of vision.

Sensitization
For skin sensitization:
Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

For respiratory sensitization:
No relevant data found.

Information for components:

Naphtha (petroleum), hydrotreated light
For this family of materials, sensitization studies done in guinea pigs have been negative.

For respiratory sensitization:
No relevant data found.

Allyltrimethoxysilane
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Tetra n-Butyl titanate
Did not demonstrate 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.

Information for components:

Naphtha (petroleum), hydrotreated light
May cause drowsiness or dizziness.
Route of Exposure: Inhalation
Target Organs: Central nervous system

Allyltrimethoxysilane
Available data are inadequate to determine single exposure specific target organ toxicity.

Tetra n-Butyl titanate
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract
May cause drowsiness or dizziness.
Route of Exposure: Inhalation

Target Organs: Nervous system

Aspiration Hazard
Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Information for components:

Naphtha (petroleum), hydrotreated light
May be fatal if swallowed and enters airways.

Allyltrimethoxysilane
Based on available information, aspiration hazard could not be determined.

Tetra n-Butyl titanate
Based on available information, aspiration hazard could not be determined.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Based on available data for the component(s), repeated exposures are not anticipated to cause significant adverse effects.

Information for components:

Naphtha (petroleum), hydrotreated light
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Allyltrimethoxysilane
No relevant data found.

Tetra n-Butyl titanate
No relevant data found.

Carcinogenicity
No relevant data found.

Information for components:

Naphtha (petroleum), hydrotreated light
No relevant data found.

Allyltrimethoxysilane
No relevant data found.

Tetra n-Butyl titanate
No relevant data found.

Teratogenicity
No relevant data found.

Information for components:

Naphtha (petroleum), hydrotreated light
No relevant data found.

Allyltrimethoxysilane
No relevant data found.

Tetra n-Butyl titanate
No relevant data found.

Reproductive toxicity
No relevant data found.

Information for components:

Naphtha (petroleum), hydrotreated light
No relevant data found.

Allyltrimethoxysilane
No relevant data found.

Tetra n-Butyl titanate
No relevant data found.

Mutagenicity
Based on information for component(s): In vitro genetic toxicity studies were predominantly negative.

Information for components:

Naphtha (petroleum), hydrotreated light
No relevant data found.

Allyltrimethoxysilane
In vitro genetic toxicity studies were predominantly negative.

Tetra n-Butyl titanate
No relevant data found.

11.2 Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Information for components:

Naphtha (petroleum), hydrotreated light
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Allyltrimethoxysilane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Tetra n-Butyl titanate
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

Naphtha (petroleum), hydrotreated light

Acute toxicity to fish
Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).
For this family of materials:
LL50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 12 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EL50, water flea Daphnia magna, 48 Hour, 4,5 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on data from similar materials
EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 30 - 100 mg/l, OECD Test Guideline 201, Test substance: Water Accommodated Fraction

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, 0,17 mg/l, Test substance: Water Accommodated Fraction

Allyltrimethoxysilane

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).
Based on data from similar materials
LC50, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates
Based on data from similar materials
EC50, 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants
Based on data from similar materials
EC50, 72 Hour, > 100 mg/l

Tetra n-Butyl titanate

Acute toxicity to fish

No relevant data found.

12.2 Persistence and degradability

Naphtha (petroleum), hydrotreated light

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 77 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Allyltrimethoxysilane

Biodegradability: No relevant data found.

Tetra n-Butyl titanate

Biodegradability: No relevant data found.

12.3 Bioaccumulative potential

Naphtha (petroleum), hydrotreated light

Bioaccumulation: Expert judgement
Partition coefficient: n-octanol/water(log Pow): > 4

Allyltrimethoxysilane

Bioaccumulation: No relevant data found.

Tetra n-Butyl titanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0,88 Estimated.

12.4 Mobility in soil

Allyltrimethoxysilane

No relevant data found.

Tetra n-Butyl titanate

No relevant data found.

12.5 Results of PBT and vPvB assessment

Naphtha (petroleum), hydrotreated light

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

Allyltrimethoxysilane

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

Tetra n-Butyl titanate

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

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Naphtha (petroleum), hydrotreated light

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Allyltrimethoxysilane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Tetra n-Butyl titanate

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

Naphtha (petroleum), hydrotreated light

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

Allyltrimethoxysilane

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

Tetra n-Butyl titanate

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 or ID number UN 1993

14.2 UN proper shipping name FLAMMABLE LIQUID, N.O.S.(Naphtha (petroleum),

		hydrotreated light, Alkoxysilane)
14.3	**Transport hazard class(es)**	3
14.4	**Packing group**	II
14.5	**Environmental hazards**	Naphtha (petroleum), hydrotreated light
14.6	**Special precautions for user**	Special Provision 640D Hazard Identification Number: 33

Classification for INLAND waterways (ADNR/ADN):
Consult your Dow contact before transporting by inland waterway

Classification for SEA transport (IMO-IMDG):

14.1	**UN number or ID number**	UN 1993
14.2	**UN proper shipping name**	FLAMMABLE LIQUID, N.O.S.(Naphtha (petroleum), hydrotreated light, Alkoxysilane)
14.3	**Transport hazard class(es)**	3
14.4	**Packing group**	II
14.5	**Environmental hazards**	Naphtha (petroleum), hydrotreated light
14.6	**Special precautions for user**	EmS: F-E, S-E
14.7	**Maritime transport in bulk according to IMO instruments**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	**UN number or ID number**	UN 1993
14.2	**UN proper shipping name**	Flammable liquid, n.o.s.(Naphtha (petroleum), hydrotreated light, Alkoxysilane)
14.3	**Transport hazard class(es)**	3
14.4	**Packing group**	II
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 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.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: Number on list 3

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: ENVIRONMENTAL HAZARDS
Number in Regulation: E2
200 t
500 t
Listed in Regulation: FLAMMABLE LIQUIDS
Number in Regulation: P5c
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 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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

Rulebook on the content of a safety data sheet (Official Gazette No. 100/11)
Rulebook on classification, packaging, labeling and advertising of chemicals and products in accordance with UN Globally Harmonized System of Classification and Labelling ("Službeni glasnik RS", broj 105/13, 52/2017 i 21/2019).
Law on chemicals ("Off. gazette RS" No. 36/09, 88/10, 92/11, 93/12 and 25/15)
Law on waste management ("Off. Gazette RS" No. 36/09, 88/10, 14/16, 95/18)
Rulebook on categories, testing and classification of waste ("Off. gazette RS" No. 56/10)
Rulebook on safety and health preventive measures at work when exposed to chemical substances ("Off. gazette RS" No.106/09 and 117/17)

15.2 Chemical safety assessment
No Chemical Safety Assessment has been carried out for this substance/mixture.

SECTION 16: OTHER INFORMATION

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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
Flam. Liq. - 2 - H225 - Based on product data or assessment
Skin Irrit. - 2 - H315 - Calculation method
Eye Dam. - 1 - H318 - Calculation method
STOT SE - 3 - H336 - Calculation method
Asp. Tox. - 1 - H304 - Calculation method
Aquatic Chronic - 2 - H411 - 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

2006/15/EC	Europe. Indicative occupational exposure limit values
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
GVI	occupational exposure limit
RS OEL	Serbia. Occupational Exposure Limits to chemicals at working place (Annex 1)
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average
Acute Tox.	Acute toxicity
Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquids
Skin Irrit.	Skin irritation
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; AIIC - Australian Inventory of Industrial Chemicals; 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.

DOW EUROPE GMBH 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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