

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Revision date:
19/05/2016

Date of issue:
29/05/2014

Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Product Name : CV-1146-2
Synonyms : Controlled Volatility, RTV Silicone Atomic Oxygen Protective Coating

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

1.2.1. Relevant identified uses

Use of the substance/mixture : For professional use only. Provides atomic oxygen protection and resistance to radiation and thermal stress.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

NuSil Technology LLC
1050 Cindy Lane
Carpinteria, California 93013
USA
(805) 684-8780
ehs@nusil.com
www.nusil.com

1.4. Emergency telephone number

Emergency number : 800-424-9300 CHEMTREC (in US); +1 703-527-3887 CHEMTREC (International and Maritime)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225
Skin Irrit. 2 H315
Eye Dam. 1 H318
Skin Sens. 1 H317
STOT SE 3 H336
Asp. Tox. 1 H304
Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine; 2-Butanone, O,O',O''-(methylsilyldiyl)trioxime; Solvent naphtha, petroleum, light aliphatic; 1-Propanamine, 3-(triethoxysilyl)-

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Precautionary statements (CLP)	<p>H304 - May be fatal if swallowed and enters airways H315 - Causes skin irritation H317 - May cause an allergic skin reaction H318 - Causes serious eye damage H336 - May cause drowsiness or dizziness H412 - Harmful to aquatic life with long lasting effects</p> <p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P233 - Keep container tightly closed P240 - Ground/bond container and receiving equipment P241 - Use explosion-proof electrical, lighting, ventilating equipment P261 - Avoid breathing vapors, mist, or spray P264 - Wash hands, forearms and face thoroughly after handling P271 - Use only outdoors or in a well-ventilated area P272 - Contaminated work clothing should not be allowed out of the workplace P273 - Avoid release to the environment P280 - Wear eye protection, face protection, face shield, protective clothing, protective gloves P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor P302+P352 - IF ON SKIN: Wash with plenty of water P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P310 - Immediately call a POISON CENTER or doctor P312 - Call a POISON CENTER or doctor if you feel unwell P321 - Specific treatment (see Section 4 on this SDS) P331 - Do NOT induce vomiting P332+P313 - If skin irritation occurs: Get medical advice/attention P333+P313 - If skin irritation or rash occurs: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), foam, sand to extinguish P403+P233 - Store in a well-ventilated place. Keep container tightly closed P403+P235 - Store in a well-ventilated place. Keep cool P405 - Store locked up P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations</p>
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2.3. Other Hazards

Other hazards not contributing to the classification	: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.
Unknown hazards to the aquatic environment (CLP)	: Contains 45 - 50 % of components with unknown hazards to the aquatic environment.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Solvent naphtha, petroleum, light aliphatic	(CAS No) 64742-89-8 (EC no) 265-192-2 (EC index no) 649-267-00-0	20 - 24	Flam. Liq. 3, H226 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Silica, amorphous, fumed, crystalline-free	(CAS No) 112945-52-5 (EC no) 601-216-3	5 - 10	Not classified
2-Butanone, O,O',O''-(methylsilyldiyl)trioxime	(CAS No) 22984-54-9 (EC no) 245-366-4	5 - 9	Eye Irrit. 2, H319 Skin Sens. 1B, H317 STOT RE 2, H373
1-Propanamine, 3-(triethoxysilyl)-	(CAS No) 919-30-2 (EC no) 213-048-4 (EC index no) 612-108-00-0	1 - 5	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Irrit. 2, H319 Skin Sens. 1, H317
N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine	(CAS No) 1760-24-3 (EC no) 217-164-6	< 1	Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Dam. 1, H318 Skin Sens. 1, H317

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).
- First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.
- First-aid measures after skin contact : Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

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

- Symptoms/injuries : Causes serious eye irritation. Causes skin irritation. Causes damage to organs through prolonged or repeated exposure.
- Symptoms/injuries after inhalation : May cause respiratory irritation. May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : Causes skin irritation. May cause an allergic skin reaction.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.
- Chronic symptoms : May cause damage to organs through prolonged or repeated exposure.

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, fog, carbon dioxide, foam, dry chemical.
Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire. Application of water stream to hot product may cause frothing and increase fire intensity.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.
Explosion hazard : May form flammable/explosive vapour-air mixture.
Reactivity : Reacts with strong oxidants causing fire and explosion hazard.

5.3. Advice for firefighters

Precautionary measures fire : Exercise caution when fighting any chemical fire.
Firefighting instructions : Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Refer to Section 9 for flammability properties.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapour, mist, spray). Remove ignition sources. No naked lights. No smoking.

6.1.1. For non-emergency personnel

Protective equipment : Use appropriate personal protection equipment (PPE).
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not take up in combustible material such as: saw dust or cellulosic material.
Methods for cleaning up : Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Use only non-sparking tools.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion proof equipment.

Storage conditions : Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep in fireproof place.

Incompatible products : Strong acids. Strong bases. Strong oxidizers.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Silica, amorphous, fumed, crystalline-free (112945-52-5)		
Austria	MAK (mg/m ³)	4 mg/m ³ (inhalable fraction)
Switzerland	VME (mg/m ³)	4 mg/m ³ (inhalable dust)
1-Propanamine, 3-(triethoxysilyl)- (919-30-2)		
Finland	HTP-arvo (8h) (mg/m ³)	28 mg/m ³
Finland	HTP-arvo (8h) (ppm)	3 ppm
Finland	HTP-arvo (15 min)	55 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	6 ppm

8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapours may be released.

Personal protective equipment : Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for protective clothing : Chemically resistant materials and fabrics.

Hand protection : Wear chemically resistant protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Use an approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental exposure controls : Do not allow the product to be released into the environment.

Consumer exposure controls : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Colour	: Black
Odour	: Solvent
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 125,6 °C (258 °F)
Flash point	: 8,9 °C (48 °F)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative Density	: 0,88 (Water = 1)
Solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : 20 - 25 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with strong oxidants causing fire and explosion hazard.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7). May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Silicon oxides. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Silica, amorphous, fumed, crystalline-free (112945-52-5)	
LD50 oral rat	3160 mg/kg
N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine (1760-24-3)	
LD50 oral rat	2295 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 1,49 mg/l/4h

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2-Butanone, O,O',O''-(methylsilylidyne)trioxime (22984-54-9)	
LD50 oral rat	2463 mg/kg
LD50 dermal rat	> 2000 mg/kg
Solvent naphtha, petroleum, light aliphatic (64742-89-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	3000 mg/kg
1-Propanamine, 3-(triethoxysilyl)- (919-30-2)	
LD50 oral rat	1570 mg/kg
LD50 oral	1570 mg/kg
LD50 dermal	4290 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	7,35 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine (1760-24-3)	
LC50 fish 1	597 mg/l (Species: Danio rerio)
EC50 Daphnia 1	81 mg/l
ErC50 (algae)	8,8 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
NOEC chronic fish	344 mg/l
NOEC chronic crustacea	35 mg/l
NOEC chronic algae	3,1 mg/l (Pseudokirchnerella subcapitata Exposure time: 96h)

2-Butanone, O,O',O''-(methylsilylidyne)trioxime (22984-54-9)	
EC50 Daphnia 1	120 mg/l (Exposure time: 48h - Species: Daphnia magna)

1-Propanamine, 3-(triethoxysilyl)- (919-30-2)	
LC50 fish 1	934 mg/l (Danio rerio)
EC50 Daphnia 1	331 mg/l
ErC50 (algae)	1000 mg/l (Scenedesmus subspicatus)
NOEC chronic fish	934 mg/l (Danio rerio)
NOEC chronic crustacea	94 mg/l (Daphnia magna)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

12.6. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of waste material in accordance with all local, regional, national, and international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1268

14.2. UN proper shipping name

Proper Shipping Name (ADR) : PETROLEUM DISTILLATES, N.O.S.

Transport document description : UN 1268 PETROLEUM DISTILLATES, N.O.S. (Naphtha Solution), 3, II, (D/E)
(ADR)

14.3. Transport hazard class(es)

Class (ADR) : 3

Danger labels (ADR) : 3



14.4. Packing group

Packing group (ADR) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

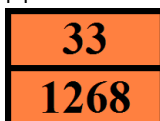
14.6.1. Overland transport

Hazard identification number : 33

(Kemler No.)

Classification code (ADR) : F1

Orange plates :



Special provisions (ADR) : 640C, 363

Transport category (ADR) : 2

Tunnel restriction code (ADR) : D/E

Limited quantities (ADR) : 11

Excepted quantities (ADR) : E2

EAC code : 3YE

14.6.2. Transport by sea

MFAG-No : 128

14.6.3. Air transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 20 - 25 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Section	Section Header	Change	Date Changed
1	Identification of the substance/mixture and of the company/undertaking	Modified.	19/05/2016
2	Hazards identification	Modified. Removed DSD/DPD information.	19/05/2016
3	Composition/information on ingredients	Modified. Removed not classified components. Removed DSD/DPD information.	19/05/2016
15.1	EU-Regulations	Modified	19/05/2016

Revision date : 19/05/2016

Data sources : According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
Skin Sens. 1B	Sensitisation — Skin, category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour

CV-1146-2

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

H226	Flammable liquid and vapour
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Nusil EU GHS SDS

We believe that the information contained herein is current as of the date of this Safety Data Sheet, and is offered in good faith. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of Nusil Technology, it is the user's obligation to determine the conditions of safe use of the product.



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