

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

1.1. Product identifier

Product form : Mixture
Product Name : CV-2900
Synonyms : Thermally Conductive Controlled Volatility Silicone Adhesive

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 : As a sealing, caulking, adhesive or potting material in electronics and space applications. For professional use only.

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]

Eye Irrit. 2 H319
Skin Sens. 1 H317
STOT RE 2 H373
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

Full text of 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) : Warning
Hazardous ingredients : N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine, 2-Butanone, O,O',O''-(methylsilylidyne)trioxime
Hazard statements (CLP) : H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (CLP) : P260 - Do not breathe vapours, mist, or spray
P264 - Wash hands, forearms, and other exposed areas thoroughly after

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According to regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008

handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves, protective clothing, and eye protection
P302+P352 - IF ON SKIN: Wash with plenty of water
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see section 4 on this SDS)
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations

2.3. Other Hazards

Other hazards not contributing to the classification : Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.
Unknown Acute Toxicity : 25 to 30 percent of the mixture consists of ingredients of unknown acute toxicity.
Unknown Aquatic Toxicity : < 1 percent of the mixture consists of ingredients of unknown aquatic toxicity.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Zinc oxide	(CAS No) 1314-13-2 (EC no) 215-222-5 (EC index no) 030-013-00-7	65 - 70	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2-Butanone, O,O',O''-(methylsilylidyne)trioxime	(CAS No) 22984-54-9 (EC no) 245-366-4	< 5	Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 2, H373
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-phrases: 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.

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- 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 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.
- 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 : May cause an allergic skin reaction. Causes eye irritation. May cause damage to organs (cardiovascular / hematological) through prolonged or repeated exposure.
- Symptoms/injuries after inhalation : Prolonged exposure may cause irritation.
- Symptoms/injuries after skin contact : May cause an allergic skin reaction. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.
- Symptoms/injuries after eye contact : Causes eye irritation. Symptoms may include: redness, pain, swelling, itching, burning, tearing, and blurred vision.
- Symptoms/injuries after ingestion : Ingestion is likely to be harmful or have adverse effects.
- Chronic symptoms : May cause damage to organs (cardiovascular / hematological) through prolonged or repeated exposure.

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 : Use extinguishing media appropriate for surrounding fire.
- 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 : Not considered flammable but may burn at high temperatures.
- Explosion hazard : Product is not explosive.
- Reactivity : Hazardous reactions will not occur under normal conditions.

5.3. Advice for firefighters

- Precautionary measures fire : Exercise caution when fighting any chemical fire.
- Firefighting instructions : Do not breathe fumes from fires or vapours from decomposition. Do not allow run-off from fire fighting to enter drains or water sources.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Will decompose above 150 °C (> 300 °F) releasing formaldehyde vapours. Refer to Section 9 for flammability properties.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin and the eyes.

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. Ventilate area. Eliminate ignition sources.

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According to regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008

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.

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.

6.4. Reference to other sections

See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear recommended personal protective equipment. Avoid all unnecessary exposure.

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 : Ensure adequate ventilation. Comply with applicable regulations.

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.

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

7.3. Specific end use(s)

As a sealing, caulking, adhesive or potting material in electronics and space applications. For professional use only.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Zinc oxide (1314-13-2)		
Austria	MAK (mg/m ³)	5 mg/m ³ (respirable fraction, smoke)
Belgium	Limit value (mg/m ³)	10 mg/m ³ (dust) 5 mg/m ³ (fume) 5 mg/m ³ (aerosol and vapour)
Belgium	Short time value (mg/m ³)	10 mg/m ³ (fume) 10 mg/m ³ (aerosol and vapour)
Bulgaria	OEL TWA (mg/m ³)	5,0 mg/m ³
Bulgaria	OEL STEL (mg/m ³)	10,0 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	5 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	10 mg/m ³
France	VME (mg/m ³)	5 mg/m ³ (fume) 10 mg/m ³ (dust)
Greece	OEL TWA (mg/m ³)	5 mg/m ³ (fume)
Greece	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
USA ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (respirable fraction)
Latvia	OEL TWA (mg/m ³)	0,5 mg/m ³
Spain	VLA-ED (mg/m ³)	2 mg/m ³ (respirable fraction)

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Zinc oxide (1314-13-2)		
Spain	VLA-EC (mg/m ³)	10 mg/m ³
Switzerland	VLE (mg/m ³)	3 mg/m ³ (respirable dust, smoke)
Switzerland	VME (mg/m ³)	3 mg/m ³ (respirable dust, smoke)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	2 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	4 mg/m ³ 4 mg/m ³ (fume)
Estonia	OEL TWA (mg/m ³)	5 mg/m ³
Finland	HTP-arvo (8h) (mg/m ³)	2 mg/m ³ (fume)
Finland	HTP-arvo (15 min)	10 mg/m ³ (fume)
Hungary	AK-érték	5 mg/m ³ (respirable dust)
Hungary	CK-érték	20 mg/m ³ (respirable dust)
Ireland	OEL (8 hours ref) (mg/m ³)	2 mg/m ³ (fume)
Ireland	OEL (15 min ref) (mg/m ³)	10 mg/m ³ (fume)
Lithuania	IPRV (mg/m ³)	5 mg/m ³
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	5 mg/m ³
Norway	Gjennomsnittsverdier (Korttidsverdi) (mg/m ³)	10 mg/m ³
Poland	NDS (mg/m ³)	5 mg/m ³ (inhalable fraction)
Poland	NDSch (mg/m ³)	10 mg/m ³ (inhalable fraction)
Romania	OEL TWA (mg/m ³)	5 mg/m ³ (fume)
Romania	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
Slovakia	NPHV (priemerná) (mg/m ³)	1 mg/m ³ (fume)
Slovakia	NPHV (Hraničná) (mg/m ³)	1 mg/m ³
Slovenia	OEL TWA (mg/m ³)	5 mg/m ³ (respirable fraction, fume)
Slovenia	OEL STEL (mg/m ³)	20 mg/m ³ (respirable fraction, fume)
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³ (total dust)
Portugal	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Portugal	OEL STEL (mg/m ³)	10 mg/m ³ (respirable fraction)

8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Product should be handled under strictly controlled conditions. . Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
- Personal protective equipment : Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.
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- Materials for protective clothing : Chemically resistant materials and fabrics.
- Hand protection : Wear chemically resistant protective gloves.
- Eye protection : Chemical safety goggles.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

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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
Colour	: White
Odour	: Sweet
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	: No data available
Flash point	: > 275 °F (> 135 °C)
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	: 2,4 (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 : < 1 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

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

Will decompose above 150 °C (>300° F) releasing formaldehyde vapours. Formaldehyde is a potential carcinogen and can act as a potential skin and respiratory sensitizer. Formaldehyde can also cause respiratory and eye irritation. Oxides of carbon, silicon and zinc.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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According to regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008

Zinc oxide (1314-13-2)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine (1760-24-3)	
LD50 oral rat	7460 µl/kg
LC50 inhalation rat (mg/l)	1,49 - 2,44

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
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)	: Not classified
Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The ecotoxicological information applies to the materials bound within the product. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Zinc oxide (1314-13-2)	
LC50 fish 1	780 µg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0,122 mg/l
NOEC chronic fish	0,026 mg/l (Species: Jordanella floridae)

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

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not empty into drains; dispose of this material and its container in a safe way.
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

Not regulated for transport

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According to regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3.b. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	CV-2900 - N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine - 2-Butanone, O,O',O''-(methylsilyldiyne)trioxime
3.c. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	CV-2900 - Zinc oxide

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : < 1 %

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

Revision date : 08/06/2015

Data sources : According to regulation (EU) No. 2015/830 and regulation (EC) No. 1272/2008

Full text of H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1

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Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic 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.



Polymer Systems Technology Limited

Silicone Sales & Services UK - Ireland - Benelux

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Unit 2. Network 4. Cressex Business Park,
Lincoln Road, High Wycombe, Bucks. HP12 3RF

tel: +44 (0) 1494 446610

web: <https://www.silicone-polymers.com>

email: sales@silicone-polymers.co.uk

