



## SECTION 1: Identification

### 1.1. Identification

Product name	: ZIPCONE™ FN
Product code	: PP1-ZPFN
Product form	: Mixture
Physical state	: Liquid
Synonyms	: CURE SILICONE ; SILOXANES AND SILICONES, (CYCLOHEXYLAMINO)METHYL METHYL, DIMETHYL, (CYCLOHEXYLAMINO)METHYL TERMINATED
Chemical family	: ORGANOSILOXANE

### 1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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### 1.3. Supplier

#### GELEST, INC.

11 East Steel Road  
 Morrisville, PA 19067  
 USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST  
[info@gelest.com](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)

### 1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

Flammable liquids Category 2	H225 Highly flammable liquid and vapor
Skin corrosion/irritation Category 2	H315 Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319 Causes serious eye irritation
Germ cell mutagenicity Category 1B	H340 May cause genetic defects
Reproductive toxicity Category 2	H361 Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure) Category 3	H336 May cause drowsiness or dizziness
Hazardous to the aquatic environment - Acute Hazard Category 1	H400 Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1	H410 Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

#### GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H225 - Highly flammable liquid and vapor  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H336 - May cause drowsiness or dizziness  
 H340 - May cause genetic defects  
 H361 - Suspected of damaging fertility or the unborn child  
 H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P308+P313 - If exposed or concerned: Get medical advice/attention.  
 P210 - Keep away from heat, open flames, sparks. - No smoking.  
 P233 - Keep container tightly closed.  
 P240 - Ground/Bond container and receiving equipment  
 P241 - Use explosion-proof electrical equipment  
 P242 - Use only non-sparking tools.  
 P243 - Take precautionary measures against static discharge.  
 P261 - Avoid breathing vapors.  
 P264 - Wash hands thoroughly after handling.

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P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P312 - Call a POISON CENTER if you feel unwell  
P321 - Specific treatment (see first aid instructions on this label)  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish.  
P391 - Collect spillage.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Keep in a cool place  
P405 - Store locked up.  
P501 - Dispose of contents/container to licensed waste disposal facility.

### 2.3. Hazards not otherwise classified (HNOC)

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
n-Heptane	(CAS-No.) 142-82-5	64 - 70	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Siloxanes and silicones, (cyclohexylamino)methyl methyl, dimethyl, (cyclohexylamino)methyl terminated	(CAS-No.) 107659-90-5	28 - 35	Not classified
Cyclohexylamine	(CAS-No.) 108-91-8	1 - 2	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Muta. 1B, H340 Repr. 2, H361 Aquatic Acute 3, H402

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

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Suspected of damaging fertility or the unborn child. May cause genetic defects.

Symptoms/effects after inhalation : May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Heptane can cause vertigo, incoordination and stupor at 5000ppm. Vapor inhalation of heptane may lead to impairment of coordination mental alertness, and reaction times, leading to accident proneness.

Symptoms/effects after skin contact : Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.  
Unsuitable extinguishing media : Do not use straight streams.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Irritating fumes of hydrochloric acid and organic acid vapors may develop when material is exposed to water or open flame.  
Explosion hazard : May form flammable/explosive vapor-air mixture.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.  
Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection". Equip cleanup crew with proper protection. Do not attempt to take action without suitable protective equipment.

#### 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 any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Collect spillage. 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 vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Use only non-sparking tools.  
Hygiene measures : Wash contaminated clothing before reuse. 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 : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.  
Storage conditions : Keep container tightly closed. Keep in a cool place. Store locked up.  
Incompatible materials : Alcohol. Oxidizing agent. Water.  
Storage area : Store in a well-ventilated place. Store away from heat.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

n-Heptane (142-82-5)		
ACGIH	ACGIH TWA (ppm)	400 ppm
ACGIH	ACGIH STEL (ppm)	500 ppm
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	500 ppm

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n-Heptane (142-82-5)		
IDLH	US IDLH (ppm)	750 ppm
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
NIOSH	NIOSH REL (TWA) (ppm)	85 ppm
NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
NIOSH	NIOSH REL (ceiling) (ppm)	440 ppm
Cyclohexylamine (108-91-8)		
ACGIH	ACGIH TWA (ppm)	10 ppm

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### Hand protection:

Neoprene or nitrile rubber gloves

#### Eye protection:

Chemical goggles. Contact lenses should not be worn

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid. Viscous.
Color	: No data available
Odor	: Amine.
Odor threshold	: No data available
Refractive index	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: < -20 °C
Boiling point	: 98 °C initial (heptane)
Flash point	: 0 °C
Auto-ignition temperature	: 204 °C (heptane)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: 40 mm Hg @ 22°C (heptane)
Relative vapor density at 20 °C	: 3.45 (heptane)
Relative density	: 0.81
% Volatiles	: > 60 %
Solubility	: Insoluble in water. Reacts with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available

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Oxidizing properties : No data available  
Explosion limits : 1 - 6.7 vol % (lower; upper: heptane)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable in sealed containers stored under a dry inert atmosphere.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

### 10.5. Incompatible materials

Alcohol. Oxidizing agent. Water.

### 10.6. Hazardous decomposition products

Cyclohexylamine. Silicon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>n-Heptane (142-82-5)</b>	
LD50 oral mouse	5000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	103 g/m <sup>3</sup> (Exposure time: 4 h)
ATE US (dermal)	3000 mg/kg body weight
ATE US (vapors)	103 mg/l/4h
ATE US (dust, mist)	103 mg/l/4h
Toxicity information	1000 ppm Inhalation (heptane)-human, TCLo

<b>Cyclohexylamine (108-91-8)</b>	
LD50 oral rat	156 mg/kg
LD50 oral mouse	224 mg/kg
LD50 dermal rabbit	320 mg/kg
ATE US (oral)	156 mg/kg body weight
ATE US (dermal)	320 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.  
Serious eye damage/irritation : Causes serious eye irritation.  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : May cause genetic defects.  
The volatile byproduct of cure is cyclohexylamine for which human mutagenic data have been reported.  
Carcinogenicity : Not classified

<b>Cyclohexylamine (108-91-8)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity : Suspected of damaging fertility or the unborn child.  
Specific target organ toxicity – single exposure : May cause drowsiness or dizziness.  
Specific target organ toxicity – repeated exposure : Not classified  
Aspiration hazard : Not classified  
Potential Adverse human health effects and symptoms : The volatile byproduct of cure is cyclohexylamine, which has been reported as toxic.  
Symptoms/effects after inhalation : May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Heptane can cause vertigo, incoordination and stupor at 5000ppm. Vapor inhalation of heptane may lead to impairment of coordination mental alertness, and reaction times, leading to accident proneness.  
Symptoms/effects after skin contact : Causes skin irritation.

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Symptoms/effects after eye contact : Causes serious eye irritation.  
Symptoms/effects after ingestion : May be harmful if swallowed.  
Reason for classification : Expert judgment

### SECTION 12: Ecological information

#### 12.1. Toxicity

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

##### n-Heptane (142-82-5)

LC50 fish 1	375 mg/l (Exposure time: 96 h - Species: Cichlid fish)
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##### Cyclohexylamine (108-91-8)

LC50 fish 1	44 mg/l Oncorhynchus mykiss (static)
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#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### n-Heptane (142-82-5)

Log Pow	4.66
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on the ozone layer : No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.  
Product/Packaging disposal recommendations : May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.  
Additional information : Handle empty containers with care because residual vapors are flammable.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

UN-No.(DOT) : 1139  
DOT NA no. : UN1139

#### 14.2. UN proper shipping name

Transport document description : UN1139 Coating solution ((CYCLOHEXYLAMINO)METHYL METHYL, DIMETHYL, (CYCLOHEXYLAMINO)METHYL TERMINATED in heptanes), 3, II  
Proper Shipping Name (DOT) : Coating solution  
((CYCLOHEXYLAMINO)METHYL METHYL, DIMETHYL, (CYCLOHEXYLAMINO)METHYL TERMINATED in heptanes)  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 3 - Flammable liquid



Dangerous for the environment : Yes  
Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150



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### 14.3. Additional information

Emergency Response Guide (ERG) Number : 127

Other information : No supplementary information available.

### Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 5 L  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### ZIPCONE™ FN

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

#### n-Heptane (142-82-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag : T - T - indicates a substance that is the subject of a final TSCA section 4 test rule.

#### Siloxanes and silicones, (cyclohexylamino)methyl methyl, dimethyl, (cyclohexylamino)methyl terminated (107659-90-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Cyclohexylamine (108-91-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### n-Heptane (142-82-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification : Class B Division 2 - Flammable Liquid  
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

#### Cyclohexylamine (108-91-8)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

#### n-Heptane (142-82-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### Cyclohexylamine (108-91-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### National regulations

#### n-Heptane (142-82-5)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the Canadian IDL (Ingredient Disclosure List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

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### Cyclohexylamine (108-91-8)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

### n-Heptane (142-82-5)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Full text of H-phrases::

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

### Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

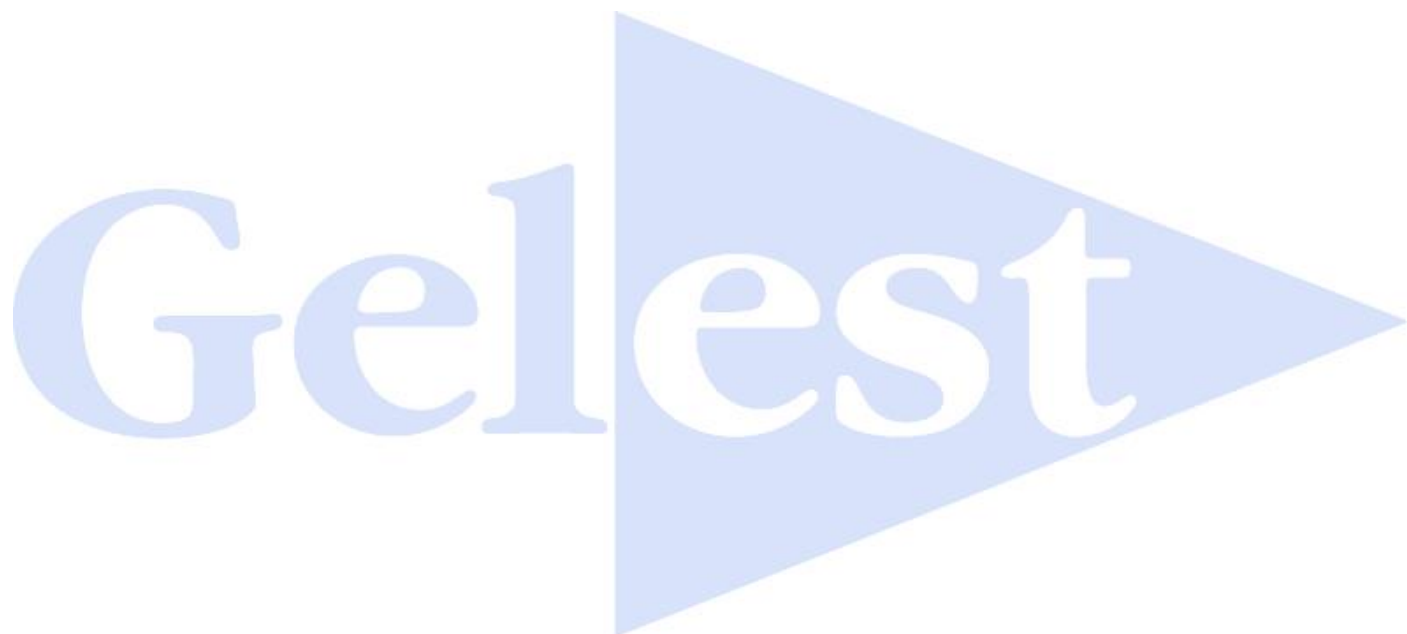
Date of issue: 10/22/2015 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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



## Filler-Free Fast-Cure Pure Silicone Elastomer for Maximum Release

Features: Provides thick film rapid-cure pure silicone elastomers with good adhesion to metals, glass and solvent compatible plastics and fibers. Products are free of abrasive-silica. Systems are high-speed moisture cure.

### Applications:

- electronic devices** - forms a soft conformal coating, free of abrasive silica.
- rubber and plastic overcoat** - provides a uniform low-roughness coating suitable for release and with an exceptionally smooth touch.
- supported membranes** - filler-free silicone allows maximum transport of gases.
- thin film seals and conformable gaskets** - may be applied by dipping or brushing.

Capsular Description:	Thickness		Cure		Hardness		Type	
		thin-thick		air/moisture		low	solvent-borne 1-part	

**Gelest Zipcone™ FN** polydimethylsiloxane RTV for rapid, neutral cure, maximum release

### Description

Zipcone™ FN is a moisture activated filler-free silicone RTV dispersed in odorless hydrocarbon. In the presence of atmospheric moisture, a condensation of silicone prepolymers occurs. The byproduct of the cure reaction is an amine. Amine byproducts have little or no corrosive effects on most metals, but copper is affected.

### Cured Properties

Tensile Strength	>50psi
Elongation	>150%
Durometer, Shore A	>5
Tear Strength	>5pli
Refractive Index	1.403

### Uncured Properties of Zipcone™ FN

Solids	32-35%
Viscosity	100-150 cSt.
Skin-over time	15 minutes
Cure time (0.25mm)	2 hours
Specific gravity	0.81
Flashpoint	0°C

### Standard Packaging

PP1-ZPFN Zipcone™ FN	
	100g/\$28.00
	650g/\$140.00
	10kg/commercial package

### Cautions

Zipcone™ F series contain flammable solvents and cure released byproducts which are eye irritants. Avoid skin and eye contact. Use in a well ventilated area wearing gloves and safety glasses. Consult MSDS of the specific product used for additional safety information.

### Application Methods

Zipcone™ F series is applied by dipping, brushing or spin-on. Solvent is allowed to evaporate in an exhausted area. Cure is at room temperature. After opening, containers should be inerted with dry air or nitrogen before sealing to avoid cure in the container.