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## 1. Identification of the substance/preparation and of the company/undertaking

**Product name** : VT-131 Auto Sealer

**Product use** : Silicone sealant

**Company** : Vital Technical Sdn. Bhd.  
No. 93, Jalan Industri 3/3,  
Rawang Integrated Industrial Park,  
48000 Rawang, Selangor,  
Malaysia.

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## 2. Hazard(s) identification

**Substance/Mixture** : Mixture

**Hazard classification** : Skin Sens.1

Eye Irrit.2



**Pictogram** : GHS07 Exclamation mark

**Signal word** : Warning

### **Hazard statement(s):**

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

### **Precautionary statement(s):**

P261	Avoid breathing vapours.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with soap and water.
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.

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**Other hazards which do not result in classification but contribute to overall hazards:** None known

### 3. Composition/Information on ingredients

Chemical name	CAS No.	EINECS No.	%
Hydrotreated petroleum, middle distillates	64742-46-7	265-148-2	1 - 10
Methyltris(ethylmethylketoxime)silane	22984-54-9	245-366-4	1 - 10
Vinyltris(ethylmethylketoxime)silane	2224-33-1	218-747-8	0.1 – 1.0
3-(2-aminoethylamino)propyltrimethoxysilane	1760-24-3	217-164-6	0.1 – 1.0

### 4. First-aid measures

**In case of inhalation:**

Remove to fresh air, keep warm and at rest. Contact physician if symptom persists.

**In case of skin contact:**

Remove contaminated clothing. Rinse with copious amount of water and soap. Get medical advice if skin irritation or a rash occurs. Wash clothing before reuse.

**In case of eye contact:**

Contact lenses should be removed. Rinse with copious amount of water immediately. Seek medical advice if eye irritation develops and persists.

**In case of ingestion:**

DO NOT induce vomiting. Rinse mouth thoroughly with water. Get medical attention if a symptom persists.

**Personal protection equipment for first-aiders:**

Pay attention to any potential hazards and use recommended personal protection equipment if potential for exposure exists.

**Most important symptoms and effects, acute and delayed:**

May cause an allergic skin reaction. Causes serious eye irritation.

### 5. Fire-fighting measures

**Suitable extinguishing media:**

Water, alcohol-resistant foam, carbon dioxide, dry chemical.

**Unsuitable extinguishing media:**

None known.

**Specific firefighting procedures:**

Remove undamaged containers from fire area if it is safe to do so. Use extinguishing media that is suitable to local circumstances and surrounding environment.

**Special person protection equipment for firefighters:**

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NIOSH-approved self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Specific hazards arising from firefighting:**

Exposure to combustion products may be a hazard to health.

**Thermal decomposition products:**

Carbon dioxide, carbon monoxide, silicon oxides, and nitrogen oxides. At temperatures above 150 °C formaldehyde will form.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedure:**

Use recommended personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

**Measure for cleaning/collecting:**

Wipe or soak with inert liquid binding material (sand, sawdust, etc.). Scrape away cured material. Dispose the spill material according to local or national regulations. Section 13 of this safety data sheet provides information regarding certain local or national requirements.

**Additional information:**

Prevent spillage from entering drainage/sewer systems. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

## 7. Handling and storage

**Handling:**

Sealant releases methylethylketoxime (MEKO) during application and curing therefore ensure good ventilation during use. Avoid contact with skin and eyes. Do not eat, drink, or smoke when using the product.

**Storage:**

Ensure containers and cartridges are tightly closed. Store in a dry, well-ventilated area, and protected from direct sunlight with temperature not exceeding 30 °C. Keep away from incompatibles. Refer to section 10 for incompatible materials.

## 8. Exposure controls/personal protection

Components	CAS No.	Form of exposure (Value type)	Control Parameter	Basis
Hydrotreated petroleum, middle distillates	64742-46-7	8 hours TWA	5 mg/m <sup>3</sup>	Malaysia OSHA
Hydrotreated petroleum, middle distillates	64742-46-7	8 hours TWA	5 mg/m <sup>3</sup>	US OSHA
Hydrotreated petroleum, middle distillates	64742-46-7	STEL	10 mg/m <sup>3</sup>	UK WEL
Hydrotreated petroleum, middle distillates	64742-46-7	8 hours TWA	5 mg/m <sup>3</sup>	Safe Work Australia

**Engineering controls:**

Product curing may form hazardous compounds. Ensure adequate ventilation and minimise workplace exposure concentrations.

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**Industrial hygiene:**

Remove immediately all contaminated clothing. Do not inhale vapour. Wash hands and contaminated areas with water and soap before leaving the work site. Change clothing before leaving workplace and wash before reuse. Do not eat, drink, or smoke while using product.

**Hand protection:**

Suitable impervious protective gloves (latex, nitrile, etc.). Breakthrough time is not tested for this product. Change gloves often if possible.

**Respiratory protection:**

A NIOSH-approved respirator with filter for organic vapours is recommended where local ventilation is not adequate.

**Eye/Face protection:**

Protective goggles/safety glasses.

## 9. Physical and chemical properties

<b>Appearance</b>	: Thixotropic paste
<b>Odour</b>	: Slight unique odour
<b>Odour threshold</b>	: Not determined
<b>pH</b>	: Not applicable
<b>Freezing/Melting point</b>	: Not determined
<b>Boiling point range</b>	: Not applicable
<b>Flash point</b>	: Not applicable
<b>Evaporation rate</b>	: Not applicable
<b>Flammability</b>	: Not classified as flammable
<b>Explosive properties</b>	: Not classified as explosive
<b>Oxidising properties</b>	: Not classified as oxidising
<b>Vapour pressure</b>	: Not applicable
<b>Vapour density</b>	: Not applicable
<b>Relative density</b>	: 1.04
<b>Solubility in water</b>	: Not determined
<b>N-octanol/water partition coefficient</b>	: Not determined
<b>Decomposition temperature</b>	: Not determined
<b>Viscosity</b>	: Not applicable

## 10. Stability and reactivity

**Reactivity:**

No reactive hazards known.

**Stability:**

Stable under recommended handling and storage conditions.

**Conditions to avoid:**

Exposure to water/water vapour and humid air. Strong oxidising agents.

**Hazardous reactions:**

Hazardous polymerisation will not occur. Can react with strong oxidising agents. Hazardous decomposition products will be formed if exposed to water or humid air, and if used at elevated temperature.

**Hazardous decomposition products:**

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Methylethylketoxime (MEKO) is formed after exposure to water or moisture in air. Formaldehyde is formed at elevated temperature.

**Incompatible materials:**

Moisture and strong oxidising agents.

## 11. Toxicology information

No specific oral, inhalation or dermal toxicology data is known for this product. Any toxicological data included in this section is based on the data associated with the components.

**Acute oral toxicity, LD<sub>50</sub> (rat):**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	>5,000 mg/kg
Methyltris(ethylmethylketoxime)silane	>2,520 mg/kg
Vinyltris(ethylmethylketoxime)silane	>2,000 mg/kg
3-(2-aminoethylamino)propylmethoxysilane	2,295 mg/kg

**Acute dermal toxicity, LD<sub>50</sub> (rabbit):**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	>3,160 mg/kg
Methyltris(ethylmethylketoxime)silane	>2,000 mg/kg
3-(2-aminoethylamino)propylmethoxysilane	2,000 mg/kg

**Acute inhalation toxicity, LC<sub>50</sub> (4 hours, rat):**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	>5,266 mg/kg
3-(2-aminoethylamino)propyltrimethoxysilane	>1.49 mg/L (mist)

**Serious eye damage/eye irritation:**

Classified as eye irritant.

Distillates (petroleum), hydrotreated middle	Not eye irritant.
Methyltris(ethylmethylketoxime)silane	Irritation to eyes, but reversible after 7 days.
Vinyltris(ethylmethylketoxime)silane	Irreversible effects on the eye.
3-(2-aminoethylamino)propylmethoxysilane	Irreversible effects on the eye.

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**Skin corrosion/skin irritation:**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	Not skin irritant.
Methyltris(ethylmethylketoxime)silane	Not skin irritant.
Vinyltris(ethylmethylketoxime)silane	Not skin irritant.
3-(2-aminoethylamino)propylmethoxysilane	Not skin irritant.

**Respiratory/Skin sensitisation:**

Not classified as respiratory sensitiser, but may cause an allergic skin reaction.

Distillates (petroleum), hydrotreated middle	Not sensitising on skin.
Methyltris(ethylmethylketoxime)silane	Probability or evidence of skin sensitisation in humans.
Vinyltris(ethylmethylketoxime)silane	Probability or evidence of skin sensitisation in humans.
3-(2-aminoethylamino)propylmethoxysilane	Probability or evidence of skin sensitisation in humans.

**Germ cell mutagenicity:**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	Negative genotoxicity <i>in vitro</i> . Negative genotoxicity <i>in vivo</i> .
Methyltris(ethylmethylketoxime)silane	Negative genotoxicity <i>in vitro</i> .
Vinyltris(ethylmethylketoxime)silane	Negative genotoxicity <i>in vitro</i> . Negative genotoxicity <i>in vivo</i> .
3-(2-aminoethylamino)propylmethoxysilane	Negative genotoxicity <i>in vitro</i> . Negative genotoxicity <i>in vivo</i> .

**Carcinogenicity:**

Not classified based on available information and/or concentration of components.

**Reproductive toxicity:**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	No effect on fertility and foetal development.
Methyltris(ethylmethylketoxime)silane	No effect on fertility and foetal development.
3-(2-aminoethylamino)propylmethoxysilane	No effect on fertility and foetal development.

**Specific target organ toxicity – single exposure:**

Not classified based on available information and/or concentration of components.

Methyltris(ethylmethylketoxime)silane	Exposure by ingestion. Shown significant health effect at concentrations of 10-
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	100 mg/kg bw.
Vinyltris(ethylmethylketoxime)silane	Exposure by ingestion. Shown significant health effect at concentrations of 10-100 mg/kg bw.
3-(2-aminoethylamino)propylmethoxysilane	Exposure by ingestion. No significant health effect at concentration of 100 mg/kg bw or less.

**Specific target organ toxicity – repeated exposure:**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	Exposure for 13 weeks by ingestion on rats. NOAEL: >5,000 mg/kg
Methyltris(ethylmethylketoxime)silane	Exposure by ingestion for 28 days on rats showed haematotoxic effects at 50 mg/kg bw/day. NOAEL: 10 mg/kg bw/day
Vinyltris(ethylmethylketoxime)silane	Exposure by ingestion for 28 days on rats showed haematotoxic effects at 50 mg/kg bw/day. NOAEL: 10 mg/kg bw/day
3-(2-aminoethylamino)propylmethoxysilane	Exposure by ingestion for 28 days on rats. NOAEL: 500 mg/kg bw/day
	Exposure by dermal for 11 days on rats. NOAEL: 1,545 mg/kg bw/day

**Aspiration toxicity:**

Not classified based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	Aspiration toxicity hazard.
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**Likely route of administration:**

Inhalation, skin contact, and ingestion.

**Additional notes:**

This product will release methylethylketoxime (MEKO) on curing or in contact with water/moisture. A lifetime (about two years) inhalation study in male and female mice and rats revealed that liver tumours were observed in male mice and rats at a high exposure level of 375 ppm.

**12. Ecological information**

Individual components of this mixture have been independently tested by the raw material suppliers and any known results have been presented below. The results for the individual components may not be representative of the ecological toxicity of this finished product. This finished product has not been tested to determine individual toxicological/ecological limits.

**Ecology toxicity:**

No adverse effect on aquatic organisms is predicted based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle Toxicity to fish Toxicity to crustacean Toxicity to algae or other aquatic plants	Exposure for 96 hours, LL <sub>50</sub> : 1,028 mg/L Exposure for 48 hours, LL <sub>50</sub> : 3,193 mg/L Exposure for 72 hours, EL <sub>50</sub> : >10,000 mg/L
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Methyltris(ethylmethylketoxime)silane Toxicity to fish Toxicity to crustacean Toxicity to algae or other aquatic plants	Exposure for 96 hours, LC <sub>50</sub> : >120 mg/L Exposure for 48 hours, EC <sub>50</sub> : >120 mg/L Exposure for 72 hours, EC <sub>50</sub> : 94 mg/L
3-(2-aminoethylamino)propylmethoxysilane Toxicity to fish Toxicity to crustacean Toxicity to algae or other aquatic plants	Exposure for 96 hours, LC <sub>50</sub> : 597 mg/L Exposure for 48 hours, EC <sub>50</sub> : 81 mg/L Exposure for 72 hours, EC <sub>50</sub> : 8.8 mg/L

**Persistence and degradability:**

Not likely to be persistent based on available information and/or concentration of components.

Distillates (petroleum), hydrotreated middle	Readily biodegradable. Exposure for 28 days, 74% biodegradation.
Methyltris(ethylmethylketoxime)silane	Not readily biodegradable. Exposure for 21 days, 14.5% biodegradation.
Vinyltris(ethylmethylketoxime)silane	Not readily biodegradable. 1 second half-life degradation.
3-(2-aminoethylamino)propylmethoxysilane	Not readily biodegradable. 39% biodegradation. 0.025 hours half-life degradation.

**Bioaccumulative potential:**

No bioaccumulation potential based on available information and/or concentration of components.

Methyltris(ethylmethylketoxime)silane	Log K <sub>ow</sub> : 11.2
3-(2-aminoethylamino)propylmethoxysilane	Log K <sub>ow</sub> : -0.3

**Mobility in soil:**

No data available.

## 13. Disposal information

**Waste treatment/disposal methods - unused products**

Waste disposal must be in compliance with environmental protection requirements and local regulations.

**Waste treatment/disposal methods - contaminated packaging**

Dispose of as unused product. Empty container should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

<b>Road transport (UNRTDG)</b>	: Not regulated as dangerous goods.
<b>UN number</b>	: Not applicable
<b>Proper shipping name</b>	: Not applicable
<b>Technical name</b>	: Not applicable
<b>Hazard class</b>	: Not applicable
<b>Classification code</b>	: Not applicable
<b>Packing group</b>	: Not applicable

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**Marine transport (IMDG)** : Not regulated as dangerous goods.  
**UN number** : Not applicable  
**Proper shipping name** : Not applicable  
**Technical name** : Not applicable  
**Hazard class** : Not applicable  
**EmS** : Not applicable  
**Packing group** : Not applicable  
**Marine pollutant** : Not applicable

**Air transport (IATA)** : Not regulated as dangerous goods.  
**UN number** : Not applicable  
**Proper shipping name** : Not applicable  
**Technical name** : Not applicable  
**Hazard class** : Not applicable  
**Packing group** : Not applicable

## 15. Regulatory information

**Safety, health, and environmental regulations specific for the hazardous chemical in question:**

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2010 (Malaysia)

Occupational Safety and Health (Classification, Labelling, and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 (Malaysia)

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (European Union)

Occupational Safety and Health Administration (OSHA) (2006) Air Contaminants. 29 CFR 1910.1000 (United States of America)

Work Health and Safety Act 2011 (Australia)

EH40/2005 Workplace exposure limits (United Kingdom)

**Chemical inventory status:**

Australia AICS : All ingredients listed or exempt.  
Canada DSL : All ingredients listed or exempt.  
China IECSC : All ingredients listed or exempt.  
Korea KECI : All ingredients listed or exempt.  
Philippines PICCS : All ingredients listed or exempt.  
United States TCSA : All ingredients listed or exempt.

## 16. Other information

**Definitions:**

**TWA** : Time-weighted average.  
**STEL** : Short-term exposure level.  
**OSHA** : Occupational Safe and Health Act  
**WEL** : Workplace exposure limits  
**LD<sub>50</sub>** : The minimum dose required for lethal effects in 50% of a given population of test specimens.  
**ppm** : part per million  
**bw** : body weight  
**NOAEL** : No-observed-adverse-effect-level  
**NIOSH** : National Institute for Occupational Safety and Health.

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<b>UNRTDG</b>	: United Nations Recommendations on the Transport of Dangerous Goods
<b>IMDG</b>	: International Maritime Dangerous Goods
<b>IATA</b>	: International Air Transport Association
<b>AICS</b>	: Australian Inventory of Chemical Substances
<b>DSL</b>	: Domestic Substance List
<b>IECSC</b>	: Inventory of Existing Chemical Substances in China.
<b>KECI</b>	: Korea Existing Chemicals Inventory.
<b>HSNO</b>	: Hazardous Substance and New Organisms
<b>PICCS</b>	: Philippines Inventory of Chemicals and Chemical Substances.
<b>TSCA</b>	: Toxic Substances Control Act.

All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The details contained herein are based on our present state of knowledge and experience in characterising our product with regard to any possible safety requirement at the date of its publication. We do, however, pass them on without any warranty or property assurances.