Safety Data Sheet

Section 1 - Identification of Chemical Product And Company

CDK STONE NZ Ltd	**Emergency Phone:**	**0800 764766**
2/40 Canaveral Drive	**NZ Emergency Services:**	**111**
Rosedale		
Auckland	**Phone:**	**0800 803 932**
NEW ZEALAND	**Fax:**	**+64 9 479 2424**

Substance:

Trade Name: **Superior Fusion FV-9 Knife Grade**

Product Use:

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: HAZARDOUS SUBSTANCE: according to the criteria of HSNO.
REGULATED under NZS5433:2007 Transport of Dangerous Goods on Land

HSNO Signal Word: DANGER

Emergency Overview

Physical Description & colour: White paste

Odour: Styrene

Hazard Classification:

Flammable Liquid	Category 2	3.1B
Acute Oral Toxicity	Category 5	6.1E
Acute Inhalation Toxicity	Category 4	6.1D
Skin Effects	Category 2	6.3A
Eye Effects	Category 2	6.4A
Skin Sensitisation	Category 1	6.5B
Mutagenicity	Category 2	6.6B
Carcinogenicity	Category 2	6.7B
Reproductive Toxicity	Category 2	6.8B
STOT – SE	Category 1	6.9A
STOT – RE	Category 1	6.9A
Acute Aquatic Hazard	Category 1	9.1A
Chronic Aquatic Hazard	Category 1	9.1A

Signal Word DANGER

Hazard Statements:

H225	Highly flammable liquid and vapour
H303	May be harmful if swallowed
H332	Harmful if inhaled
H315	Causes skin irritation
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H340	May cause genetic defects

H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated inhalation or ingestion
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P240	Ground and bond container and receiving equipment
P241	Use explosion proof electrical/ ventilating/ lighting/ intrinsically safe equipment
P242	Use non-sparking tools
P243	Take action to prevent static discharge
P233	Keep container tightly closed
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection
P260	Do not breathe mists/ vapours/ sprays
P271	Use in a well-ventilated area
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment

Response

P301+330+312	IF SWALLOWED: Rinse mouth. Call a POSION CENTRE/ doctor/ physician/ first aider if you feel unwell
P303+361+352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water and soap.
P332+313	If skin irritation occurs. Get medical attention
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
P337+313	If eye irritation persists. Get medical attention
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+311	If exposed or concerned. Call a POISON CENTRE/ doctor/ physician/ first aider
P370+378	In case of fire use alcohol resistant foam or normal protein foam to extinguish
P391	Collect spillage

Storage

P403+235	Store in a well-ventilated place. Keep cool
P405	Store locked up

Disposal

P501	Dispose of content/ container to an authorised hazardous or special waste collection point in accordance with local regulation

Section 3 - Composition/Information on Ingredients

Ingredients	**CAS No**	**Conc.%**
Methyl methacrylate	80-62-6	10 – 20 %
Styrene	100-42-5	10 – 20 %
Amorphous Silica	67762-90-7	1 – 10 %
Ethylbenzene	100-41-4	< 1 %

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764766 from anywhere in New Zealand (13 1126 in Australia) and is available at all times. Have this SDS or product label with you when you call.

Eye Contact:	Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact:	Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.
Inhalation:	remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.
Ingestion:	Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.
Note to Physician:	Treat symptomatically

Section 5 - Fire Fighting Measures

Extinguishing Media:	Preferred extinguishing media are water spray or fog, dry chemical, BCF or foam
Fire and Explosion Hazards:	Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO).
Fire Fighting:	Alert Fire & Emergency New Zealand and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected to be hot. Equipment should be thoroughly decontaminated after use
Fire Decomposition:	Carbon monoxide (CO), Carbon dioxide (CO_2) and other pyrolysis products typical of burning organic material.

Section 6 - Accidental Release Measures

Minor Spills:	Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb small quantities with vermiculite or other absorbent material. Wipe up. Collect residues in a flammable waste container.
Major Spills:	Clear area of personnel. Alert Fire & Emergency New Zealand and tell them location and nature of hazard. Control personal contact with the substance, by using protective equipment as required. Prevent spillage from entering drains or water ways. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. Wash area and prevent runoff into drains or waterways. If contamination of drains or waterways occurs, advise emergency services.

Section 7 - Handling and Storage

Handling: Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights, heat or ignition sources. When handling, DO NOT eat, drink or smoke. Vapour may ignite on pumping or pouring due to static electricity. DO NOT use plastic buckets. Earth and secure metal containers when dispensing or pouring product. Use spark-free tools when handling. Avoid contact with incompatible materials. Keep containers securely sealed. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

Storage: Store in original containers in approved flame-proof area. No smoking, naked lights, heat or ignition sources. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. Keep containers securely sealed. Store away from incompatible materials in a cool, dry well-ventilated area. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:
Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure limits

CAS no.	Substance or ingredient	WES-TWA		WES-STEL	
80-62-6	Methyl Methacrylate	208 mg/m^3	50 ppm	416 mg/m^3	100 ppm
100-42-5	Styrene	85 mg/m^3	20 ppm	170 mg/m^3	40 ppm
100-41-4	Ethylbenzene	434 mg/m^3	100 ppm	543 mg/m^3	125 ppm

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Engineering Controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh

Personal Protective Equipment

Eye Protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of

injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly

Skin Protection:

Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber Overalls. PVC Apron. PVC protective suit may be required if exposure severe.

Protective Material Types: We suggest that protective clothing be made from the following materials:

PE/EVAL/PE

PVA

Teflon

Respirator: Type ABK of sufficient capacity

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	White paste
Odour:	Styrene
pH:	not applicable
Vapour Pressure:	no data
Relative Vapour Density:	not available
Viscosity	>250,000 cP
Boiling Point:	145 °C
Volatiles:	negligible
Water Solubility:	immiscible
Freezing/Melting Point:	30.6 °C
Specific Gravity:	1.11
Flashpoint	24 °C
Auto ignition temp:	no data °C
Evaporation Rate:	< 1
Lower Explosive Limit	1.1 %
Upper Explosive Limit	6.1 %
Coeff Octanol/water distribution	no data

Section 10 - Stability and Reactivity

Stability Product is considered stable

Conditions to Avoid: Avoid contact with moisture. Reacts with mild steel, galvanized steel / zinc producing hydrogen gas which may form an explosive mixture with air. Contact with alkaline materials liberates heat.

Incompatibilities: Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids ie cyanides, sulfides, carbonates. Avoid reaction with oxidizing agents, ie nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Inhaled:

There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Workers in plants manufacturing methyl methacrylate may experience headaches, pains in the extremities, tiredness, memory loss and sleep disturbance, with hormonal disturbance in women. Inhalation of the substance may cause low blood pressure, central nervous system depression, liver and kidney degeneration and death from failure of breathing. Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal. The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. These compounds may also act as general anaesthetics. Whole body symptoms of poisoning include light-headedness, nervousness, apprehension, a feeling of well-being, confusion, dizziness, drowsiness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, depression of breathing, and arrest. Heart stoppage may result from cardiovascular collapse. A slow heart rate and low blood pressure may also occur. Alkylbenzenes are not generally toxic except at high levels of exposure. Their breakdown products have low toxicity and are easily eliminated from the body.

Ingestion

There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. Oral doses can produce low blood pressure, central nervous system depression and drowsiness, liver and kidney degeneration and death after cessation of breathing. The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.

Skin Contact

This material can cause inflammation of the skin on contact in some persons. There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Reports of dental technicians, surgeons and manufacturing employees with direct skin contact with methyl methacrylate show altered sensation such as numbing and tingling sensation on the fingers, with mild local nerve damage. Open cuts abraded or irritated skin should not be exposed to this material Entry into the bloodstream, through for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Styrene has been showed to be absorbed less through the skin than via the airways.

Eye Contact

This material can cause eye irritation and damage in some persons.

Chronic Health Effects

There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Prolonged and repeated exposures can cause liver and kidney damage, low blood pressure and heart attack. There may be increased deaths from colon or rectal cancer. Long term local injection may cause tumour of the local tissues. When inhaled, it may cause watery and sore nostrils and destruction of the organ of smell. Exposure to styrene may aggravate central nervous system disorders, chronic respiratory disease, skin disease, kidney disease and liver disease. Exposure to styrene at work causes effects on the nervous system.

TOXICITY AND IRRITATION

Ingredient	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Methyl Methacrylate	7872 mg/kg	>5000 mg/kg	3745.7 mg/l
Styrene	1000 mg/kg	>2000 mg/kg	11.8 mg/l/4hr
Amorphous silica	>5000 mg/kg		
Ethylbenzene	3500 mg/kg	17800 mg/kg	

Section 12 - Ecological Information

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.

Ingredient	Fish	Crustacea	Algae
Methyl Methacrylate	$LC_{50\ 96hr}$ >79 mg/L	$EC_{50\ 48hr}$ 69 mg/L $NOEC_{504hr}$ 37 mg/L	$EC_{50\ 72hr}$ 1-260 mg/L
Styrene	$LC_{50\ 96hr}$ 3.963 mg/L	$EC_{50\ 48hr}$ 4.7 mg/L $NOEC_{168hr}$ 0.00006 mg/L	$EC_{50\ 96hr}$ 0.72 mg/L $EC_{10\ 96hr}$ 0.13 mg/L
Ethylbenzene	$LC_{50\ 96hr}$ 2-560 mg/L	$EC_{50\ 48hr}$ 1.8-2.4 mg/L $NOEC_{168hr}$ 0.96 mg/L	$EC_{50\ 96hr}$ 3.6 mg/L

	Persistence H_2O/ Soil	Persistence Air	Bioaccumulation	Mobility
Methyl Methacrylate	LOW	LOW	LOW	LOW
Styrene	HIGH	LOW	LOW	LOW
Ethylbenzene	HIGH	LOW	LOW	LOW

Section 13 - Disposal Considerations

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product.
DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled. The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous. Only dispose to the environment if a tolerable exposure limit has been set for the substance. Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

Section 14 - Transport Information

HAZCHEM 3[Y]E

Land Transport UNDG

Class or division	3
Subsidiary Risk	None
UN Number	**1866**
UN Packing Group	II
Special Provisions	
Limited Quantity	5 Lt
Shipping Name	RESIN SOLUTION, flammable (contains styrene)

Air Transport IATA

ICAO/IATA Class	3
ICAO/IATA Subrisk	None
UN/ID Number	**1866**

ERG Code	3L
Packing Group	II
Special provision	A3
Cargo only	
Packing instructions	364
Maximum Qty/pack	60 Lt
Passenger and Cargo	
Packing instructions	353
Maximum Qty/pack	5 Lt
Passenger & Cargo Limited Quantity	
Packing instructions	Y341
Maximum Qty/pack	1Lt
Shipping Name	RESIN SOLUTION flammable (contains styrene)

Marine Transport IMDG

IMDG Class	3
IMDG Subrisk	None
UN Number	**1866**
UN Packing Group	III
EmS Number	F-E S-E
Special provisions	
Limited quantities	5 Lt
Marine pollutant	Yes
Shipping Name	RESIN SOLUTION flammable (contains styrene)

Section 15 - Regulatory Information

HSNO Approval: **HSR002669** **Surface Coatings & Colourants (Flammable, Toxic [6.7])**

Group Standard conditions and other regulations:

Condition	**Requirement**
SDS	Safety data sheet must be available to a person handling the substance within 10 minutes.
Emergency plan	Required when quantities exceed 100 Lt
Certified handler	Not required
Tracking	Not applicable
Bunding and secondary containment	Required dependent on pack size and total volume
Signage	Required when present in quantities exceeding 100 Lt
Location Compliance Certificate	Required when in excess of 250Lt in containers of greater than 5Lt capacity, else greater than 500Lt containers of upto and including 5Lt capacity, else greater than 50Lt in open containers. Quantity ratio applies
Hazardous Area	Required as per AS/NZS 60079.10
Fire extinguisher	2 required when quantities exceed 100 Lt

National Inventories

Australia	AICS	Y
Canada	DSL	Y
Canada	NDSL	Y
China	IECSC	Y
Europe	EINEC/ELINCS/NLP	Y
Japan	ENCS	Y
Korea	KECI	Y
New Zealand	NZIOC	Y
Philippines	PICCS	Y
USA	TSCA	Y
Taiwan	TCSI	Y
Mexico	INSQ	Y
Vietnam	NCI	Y
Russia	ARIPS	Y

Section 16 - Other Information

Revision History

August 2020 Initial Preparation

Acronyms:

CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters
HSNO	Hazardous Substances & New Organisms Act
IARC	International Agency for Research on Cancer
ICAO Technical Instruction	International Civil Aviation Organization Technical Instructions
IMDG Code	International Maritime Dangerous Goods Code controlled by the International Maritime Organisation (IMO)
LC_{50}	Lethal concentration 50% - concentration fatal to 50% of a population
LD_{50}	Lethal dose 50% - concentration fatal to 50% of a population
NZS 5433	New Zealand Standard 5433 (Standard for the Transport of Dangerous Goods on Land)
SDS	Safety Datasheet
STEL	Short Term Exposure Limit
TWA	Time Weighted Average (typically measured as 8-hours)
UN Number	United Nations Number
WES	Workplace Exposure standard

References

Chemical properties and HSNO classifications derived from the New Zealand chemical classification information database (CCID). www.epa.govt.nz.

Workplace exposure limits derived from Workplace Exposure Standards and Biological Exposure Indices 11th Edition (November 2019).

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material in combination with any other material or in any process, unless specified in the text.

This SDS was prepared by Collievale Enterprises Ltd in accord with the Hazardous Substances (Safety Data Sheets) Notice 2017
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End of SDS