

SDI Limited

Version No: 3.1.1.1 Safety Data Sheet Issue Date: 29/01/2016 Print Date: 30/03/2016 Initial Date: Not Available L.GHS.CAN.EN

SECTION 1 IDENTIFICATION

Product Identifier

Product name	Riva Protect (powder)	
Synonyms	Not Available	
Other means of identification	Not Available	
Recommended use of the chemical and restrictions on use		

Recommended use of the chemical and restrictions on use

Relevant identified uses Powder for the making of glass ionomer fissure and tooth protector by dental professionals.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

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Registered company name	SDI Limited	SDI Brazil Industria E Comercio Ltda	SDI Germany GmbH				
Address	3-15 Brunsdon Street VIC Bayswater 3153 Australia	Rua Dr. Virgilio de Carvalho Pinto, 612 São Paulo CEP 05415-020 Brazil Hansestrasse 85 Cologne D-51149 Ger					
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Registered company name	SDI (North America) Inc.						
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Telephone	+1 630 361 9200 (Business hours)						
Fax	Not Available						
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Emergency phone number

Acception (Opposite tion	CD11 imited					
Association / Organisation	SDI Limited	Not Available	Not Available			
Emergency telephone numbers	+61 3 8727 7111	Not Available	Not Available			
Other emergency telephone numbers	ray.cahill@sdi.com.au	Not Available	Not Available			
Association / Organisation	Not Available					
Emergency telephone numbers	+61 3 8727 7111					
Other emergency telephone numbers	Not Available					

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

CANADIAN WHMIS SYMBOLS

Classification Not Applicable

Label elements

GHS labe	el elements	Not Applicable

Hazard statement(s)

Not Applicable

Hazard(s) not otherwise specified

SIGNAL WORD

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

NOT APPLICABLE

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	80-90	glass powder
9003-01-4	10-20	acrylic acid homopolymer

SECTION 4 FIRST-AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with 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. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ► Flush skin and hair with running water (and soap if available). ► Seek medical attention in event of irritation.
Inhalation	 If fumes or combustion products are inhaled remove from contaminated area. Seek medical attention.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. Seek medical attention.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

Foam is generally ineffective.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Special protective equipment and precautions for fire-fighters

DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
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Fire/Explosion Hazard	 Combustible solid which burns but propagates flame with difficulty, it is estimated that most longraic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosion). Avoid generating dust, particularly clouds of dust in a confined or unveniliated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of find dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (UEL) and upper explosive limit (UEL) are applicable to dust clouds but noty the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds are thigh temperatrue (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC). When processed with flammable liquids/vapors/mists,ignitable (hybrid) mixtures will be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people. Usuality the initial or prin
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SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	 Remove all ignition sources. Clean up all spills immediately. Avoid contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Use dry clean up procedures and avoid generating dust. Place in a suitable, labelled container for waste disposal.
Major Spills	 Moderate hazard. CAUTION: Advise personnel in area. Alert Emergency Services and tell them location and nature of hazard. Control personal contact by wearing protective clothing. Prevent, by any means available, spillage from entering drains or water courses. Recover product wherever possible. IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal. ALWAYS: Wash area down with large amounts of water and prevent runoff into drains. If contamination of drains or waterways occurs, advise Emergency Services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	 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. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to contairers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. 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 are maintained.
Other information	Do not store in direct sunlight. Store in a dry and well ventilated-area, away from heat and sunlight. Store between 5 and 30 deg C.

Conditions for safe storage, including any incompatibilities

Suitable container	 DO NOT repack. Use containers supplied by manufacturer only. Check that containers are clearly labelled and free from leaks
Storage incompatibility	Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name		TEEL-1	TEEL-2	TEEL-3
acrylic acid homopolymer	Acrylic acid polymers; (Acrylic polymer or resin)	acid polymers; (Acrylic polymer or resin)		83 mg/m3	500 mg/m3
Ingredient	Original IDLH	Revised IDLH			
glass powder	Not Available	Not Available			
acrylic acid homopolymer	Not Available	Not Available			

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the ha effective in protecting workers and will typically be independent of worker interactions to provide this t 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 "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. • Local exhaust ventilation is required where solids are handled as powders or crystals; even whe powdered by mutual friction. • Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates • If in spite of local exhaust an adverse concentration of the substance in air could occur, respirator consist of: (a): particle dust respirators, if necessary, combined with an absorption cartridge; (b): filter respirators with absorption cartridge or canister of the right type; (c): fresh-air hoods or masks • Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding • Powder handling equipment such as dust collectors, dryers and mills may require additional pro Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, deter required to efficiently remove the contaminant. Type of Contaminant: direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas dii into zone of rapid air motion) grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial ve rapid air motion). 2. Contaminants of low toxicity or of nuisance value only 3. Intermittent, low production. 4: Large hood or large air mass in motion Simple theory shows that air veloc	high level of protection. the worker and ventilation that d properly. The design of a venti- in particulates are relatively lar in the workplace. ry protection should be consid g. tection measures such as exp ermine the "capture velocities" scharge (active generation locity into zone of very high Upper end of the range 1: Disturbing room air currer 2: Contaminants of high toxic 3: High production, heavy use 4: Small hood-local control or raction pipe. Velocity generally should be adjusted, according a minimum of 4-10 m/s (800-21 , producing performance defic	strategically "adds" and tilation system must match ge, a certain proportion will be lered. Such protection might losion venting. of fresh circulating air Air Speed: 1-2.5 m/s (200-500 f/min.) 2.5-10 m/s (500-2000 f/min.) 2.5-10 m/s (500-2000 f/min.) 2.5-10 m/s (source context) generation of the square gly, after reference to 000 f/min) for extraction of its within the extraction
Personal protection			
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritic lenses or restrictions on use, should be created for each workplace or task. This should include a chemicals in use and an account of injury experience. Medical and first-aid personnel should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove at the first signs of eye redness or irritation - lens should be removed in a clean environment only Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] 	a review of lens absorption and trained in their removal and su contact lens as soon as practi	d adsorption for the class of iitable equipment should be cable. Lens should be removed
Skin protection	See Hand protection below		
Hands/feet protection	 Rubber Gloves Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber 		

Body protection	See Other protection below
Other protection	 Overalls. P.V.C. apron. Barrier cream. Skin cleansing cream. Eye wash unit.
Thermal hazards	Not Available

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	-	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Fine pale coloured powder, insoluble in water.		
Physical state	Divided Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled

Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung

	concentrations of particulate are inhaled.	inly derived from the vascular system. Ind conditions such as emphysema or chronic bronchitis, may incur further disability if excessive urred or if kidney damage has been sustained, proper screenings should be conducted on	
Ingestion	Accidental ingestion of the material may be damaging to the h	ealth of the individual.	
Skin Contact	Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.		
Eye	Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.		
Chronic		tional exposure may produce cumulative health effects involving organs or biochemical systems. shanges in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 micron eathlessness. Lung shadows show on X-ray.	
	тохісіту	IRRITATION	
Riva Protect (powder)	Not Available	Not Available	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
glass powder	Not Available	Not Available	
	тохісіту	IRRITATION	
		Nil reported	
acrylic acid homopolymer	Oral (rat) LD50: 2500 mg/kgd ^[2]	Nil reported	

ACRYLIC ACID HOMOPOLYMER	reactive airways dysfunction syndrome (RADS) which of RADS include the absence of preceding respiratory to hours of a documented exposure to the irritant. A rev on methacholine challenge testing and the lack of minir of RADS. RADS (or asthma) following an irritating inha	can occur following exposure to high levels disease, in a non-atopic individual, with abr versible airflow pattern, on spirometry, with t mal lymphocytic inflammation, without eosi alation is an infrequent disorder with rates r hand, is a disorder that occurs as result of e after exposure ceases. The disorder is ch	as. This may be due to a non-allergenic condition known as a of highly irritating compound. Key criteria for the diagnosis upt onset of persistent asthma-like symptoms within minutes he presence of moderate to severe bronchial hyperreactivity hophilia, have also been included in the criteria for diagnosis elated to the concentration of and duration of exposure to the exposure due to high concentrations of irritating substance aracterised by dyspnea, cough and mucus production.
Acute Toxicity	0	Carcinogenicity	\otimes
Skin Irritation/Corrosion	0	Reproductivity	0
Serious Eye Damage/Irritation	0	STOT - Single Exposure	0
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0
Mutagenicity	0	Aspiration Hazard	0

 Legend:

 × - Data available but does not fill the criteria for classification

 • - Data required to make classification available

 • - Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
acrylic acid homopolymer	EC50	384	Crustacea	389.869mg/L	3
acrylic acid homopolymer	EC50	96	Algae or other aquatic plants	8596.446mg/L	3
acrylic acid homopolymer	LC50	96	Fish	1684.686mg/L	3
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
acrylic acid homopolymer	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
acrylic acid homopolymer	LOW (LogKOW = 0.4415)

Mobility in soil

Ingredient	Mobility
acrylic acid homopolymer	HIGH (KOC = 1.201)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging 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.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant NO

Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

GLASS POWDER(NOT APPLICABLE) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

ACRYLIC ACID HOMOPOLYMER(9003-01-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS			
Canada Categorization decisions for all DSL substances		International Agency for Research on Cancer (IARC) - Agents Classified by the IARC	
Canada Domestic Substances List (DSL)		Monographs	
National Inventory	Status		
Australia - AICS	Y		
Canada - DSL	Y		
Canada - NDSL	N (acrylic acid homopolymer)		
China - IECSC	Y		
Europe - EINEC / ELINCS / NLP	N (acrylic acid homopolymer)		
Japan - ENCS	Y		
Korea - KECI	Y		
New Zealand - NZIoC	Y		

Philippines - PICCS	Y	
USA - TSCA	Y	
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)	

SECTION 16 OTHER INFORMATION

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by SDI Limited using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average PC – STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure Limit, IDLH: Immediately Dangerous to Life or Health Concentrations OSF: Odour Safety Factor NOAEL: No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LODE: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index

The information contained in the Safety Data Sheet is based on data considered to be accurate, however, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.

Other information:

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