SAFETY DATA SHEET

Section 1 – Product & Company Identification

Product Name: PEX Expander Head Grease

Product Catalog No.: 81008

Recommended Use: For Use with RPE 100 PEX Expander

Restrictions on Use: Industrial use only

Company Information:

North America	Australia	New Zealand
Ridge Tool Company 400 Clark Street Elyria, Ohio 44035-6001 1-800-519-3456 (8:00 am – 5:00 pm EST, M-F) Emergency Telephone call 9-1-1 or local emergency number www.RIDGID.com	Ridge Tool Australia 127 Metrolink Circuit Campbellfield, VIC 3061 1-800-743-443 (8:30 am – 5:00 pm AEST, M-F) Emergency Telephone call 000 or local emergency number www.RIDGID.com.au	Konnect Fastening Systems Ltd 11 Bruce Roderick Drive East Tamaki, Auckland 2013 09 276 0760 (7.30 am – 5:00 pm NZST, M-F) Emergency Telephone call 111 or local emergency number https://konnectfasteningsystems.co.nz/

Operating Standard:	6-312
Revision:	B
EC Number	ECN005080
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Section 2 – Hazards Identification

Hazard Classification This product is not hazardous under the criteria of the Hazardous Products Regulation (HPR) as implemented under the Workplace Hazardous Materials Information System (WHMIS 2015).

Other hazards No data available

Section 3 – Composition / Information On Ingredients

Chemical nature: Inorganic and organic compounds, Mixture
This product is a mixture.

Hazardous Component(s):

Chemical name	CAS-No.	Concentration
White mineral oil (petroleum)	8042-47-5	>= 50.0 - < 70.0 %
Aluminum hydroxide benzoate stearate	54326-11-3	>= 1.0 - < 5.0 %
Zinc Oxide	1314-13-2	>= 1.0 - < 5.0 %

Section 4 – First Aid Measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: If inhaled Move person to fresh air; if effects occur, consult a physician.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation occurs: Get medical advice/ attention.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel. Consult a physician if necessary.

Most important symptoms/effects, acute and delayed

Symptoms: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5 – Fire Fighting Measures

Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: None known.

Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use

	water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Follow safe handling advice and personal protective equipment recommendations.
Methods and material for containment and cleaning up:	Wipe up or scrape up and contain for salvage or disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. See sections: 7, 8, 11, 12 and 13.
Environmental Precautions:	Do not release the product to the aquatic environment above defined regulatory levels Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Section 7 – Handling And Storage

Precautions for safe handling:	Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.

	Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Advice on general occupational hygiene:	Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. Ensure that eye flushing systems and safety showers are located close to the working place.
Conditions for safe storage, including any incompatibilities:	Keep in properly labelled containers. Store in accordance with the particular national regulations.
Do not store the following product types:	Strong oxidizing agents.
Unsuitable materials for containers:	None known.

Section 8 – Exposure Controls / Personal Protection

Control parameters
If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Consult local authorities for recommended exposure limits.

Component	Regulation	Type of listing	Value
White mineral oil (petroleum)	ACGIH	TWA Inhalable particulate matter	5 mg/m3
	Further information: A4: Not classifiable as a human carcinogen		
	CA AB OEL	TWA Mist	5 mg/m3
	CA AB OEL	STEL Mist	10 mg/m3
	CA BC OEL	TWA Mist	1 mg/m3
Aluminum hydroxide benzoate stearate	ACGIH	TWA Inhalable particulate matter	10 mg/m3
	Further information: A4: Not classifiable as a human carcinogen		

	ACGIH	TWA Respirable particulate matter	3 mg/m3
	Further information: A4: Not classifiable as a human carcinogen		
	CA AB OEL	TWA	10 mg/m3
	Further information: 3: Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required		
	CA BC OEL	TWA Inhalable	10 mg/m3
	CA BC OEL	TWA Respirable	3 mg/m3
	CA QC OEL	TWAEV respirable dust	5 mg/m3
	CA QC OEL	TWAEV	10 mg/m3
Zinc Oxide	ACGIH	TWA Respirable particulate matter	2 mg/m3
	ACGIH	STEL Respirable particulate matter	10 mg/m3
	CA AB OEL	TWA Respirable	2 mg/m3
	CA AB OEL	STEL Respirable	10 mg/m3
	CA BC OEL	TWA Respirable	2 mg/m3
	CA BC OEL	STEL Respirable	10 mg/m3
	CA QC OEL	TWAEV respirable dust	2 mg/m3
	CA QC OEL	STEV respirable dust	10 mg/m3

Exposure controls

Engineering measures: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. Ensure that eye flushing systems and safety showers are located close to the working place.

Individual protection measures

Eye Protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process.

Section 9 – Physical And Chemical Properties

Appearance:	
Physical state:	paste
Color:	white
Odor:	slight
Odor threshold:	No data available
pH:	Substance/mixture is non-soluble (in water).
Melting point/ range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	No data available
Flash point	closed cup >200 °C
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available

Relative Density (water = 1)	1.15
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Section 10 – Stability And Reactivity

Reactivity:	Not classified as a reactivity hazard.
Chemical Stability:	Stable under normal conditions.
Possibility of hazardous reactions:	Can react with strong oxidizing agents. When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours. Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.
Conditions to avoid:	None known.
Incompatible Materials:	Oxidizing agents
Hazardous Decomposition Products:	No hazardous decomposition products are known.

Section 11 – Toxicological Information

Toxicological information appears in this section when such data is available.

Acute toxicity

Product Name : RIDGID PEX Expander Head Grease

Acute oral toxicity:	Product test data not available. Refer to component data.
Acute dermal toxicity:	Product test data not available. Refer to component data.
Acute inhalation toxicity:	Product test data not available. Refer to component data.
Skin corrosion / irritation:	Product test data not available. Refer to component data.
Serious eye damage / eye irritation:	Product test data not available. Refer to component data.
Specific Target Organ Systemic Toxicity (Single Exposure):	Product test data not available. Refer to component data.
Specific Target Organ Systemic Toxicity (Repeated Exposure):	Product test data not available. Refer to component data.
Carcinogenicity:	Product test data not available. Refer to component data.
Teratogenicity:	Product test data not available. Refer to component data.
Reproductive toxicity:	Product test data not available. Refer to component data.
Mutagenicity:	Product test data not available. Refer to component data.
Aspiration Hazard:	Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

White mineral oil (petroleum)

Acute oral toxicity	LD50, Rat, > 5,000 mg/kg OECD Test Guideline 401
Acute dermal toxicity	LD50, Rabbit, > 2,000 mg/kg OECD Test Guideline 402
Acute inhalation toxicity	LC50, Rat, 4 Hour, dust/mist, > 5 mg/l OECD Test Guideline 403

Skin corrosion/irritation	Brief contact is essentially nonirritating to skin.
Serious eye damage/eye irritation	May cause slight temporary eye irritation.
Sensitization	Did not cause allergic skin reactions when tested in guinea pigs.
Specific Target Organ Systemic Toxicity (Single Exposure)	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Specific Target Organ Systemic Toxicity (Repeated Exposure)	Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
Carcinogenicity:	Animal testing did not show any carcinogenic effects.
Teratogenicity:	Did not cause birth defects or any other fetal effects in laboratory animals.
Reproductive toxicity:	In animal studies, did not interfere with reproduction.
Mutagenicity:	Animal genetic toxicity studies were negative. In vitro genetic toxicity studies were negative.
Aspiration Hazard:	The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Aluminum hydroxide benzoate stearate

Acute oral toxicity	For similar material(s): LD50, Rat, female, > 2,000 mg/kg OECD Test Guideline 420 No deaths occurred at this concentration.
Acute dermal toxicity	LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

Acute inhalation toxicity	The LC50 has not been determined.
Skin corrosion / irritation	Brief contact is essentially nonirritating to skin.
Serious eye damage / eye irritation	May cause moderate eye irritation. Corneal injury is unlikely.
Sensitization	For skin sensitization: For similar material(s): Did not demonstrate the potential for contact allergy in mice. For respiratory sensitization: No relevant data found.
Specific Target Organ Systemic Toxicity (Single Exposure)	Evaluation of available data suggests that this material is not an STOT-SE toxicant.
Specific Target Organ Systemic Toxicity (Repeated Exposure)	For similar material(s): Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
Teratogenicity	No relevant data found.
Reproductive toxicity	No relevant data found.
Mutagenicity	For similar material(s): In vitro genetic toxicity studies were negative.
Aspiration Hazard	Based on physical properties, not likely to be an aspiration hazard.

Zinc Oxide

Acute oral toxicity	LD50, Rat, > 5,000 mg/kg
Acute dermal toxicity	LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity	Exposure to metal oxide fumes may cause metal fume fever, characterized by influenza-like symptoms. Dust may cause irritation to upper respiratory tract (nose and throat). LC50, Rat, 4 Hour, dust/mist, > 5.7 mg/l No deaths occurred at this concentration.
Skin corrosion/irritation	Prolonged contact is essentially nonirritating to skin.
Serious eye damage/eye irritation	May cause slight temporary eye irritation. Corneal injury is unlikely.
Sensitization	For skin sensitization: Did not cause allergic skin reactions when tested in guinea pigs. For respiratory sensitization: No relevant data found.
Specific Target Organ Systemic Toxicity (Single Exposure)	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Specific Target Organ Systemic Toxicity (Repeated Exposure)	Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.
Carcinogenicity	Available data are inadequate to evaluate carcinogenicity.
Teratogenicity	Did not cause birth defects in laboratory animals.
Reproductive toxicity	In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.
Mutagenicity	In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Aspiration Hazard	Based on physical properties, not likely to be an aspiration hazard.

Section 12 – Ecological Information

Ecotoxicological information appears in this section when such data is available.

Toxicity

White mineral oil (petroleum)

Acute toxicity to fish	Information given is based on data obtained from similar substances. LC50, Leuciscus idus (Golden orfe), 96 Hour, > 10,000 mg/l, OECD Test Guideline 203
Acute toxicity to aquatic invertebrates	Information given is based on data obtained from similar substances. EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202
Acute toxicity to algae/aquatic plants	NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, 100 mg/l, OECD Test Guideline 201
Chronic toxicity to aquatic invertebrates	Based on data from similar materials NOEC, Daphnia magna (Water flea), 21 d, 10 mg/l

Aluminum hydroxide benzoate stearate

Acute toxicity to fish	Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). For similar material(s): LL50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203
Acute toxicity to aquatic invertebrates	For similar material(s): EL50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202
Acute toxicity to algae/aquatic plants	For similar material(s): EL50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 100 mg/l, OECD Test Guideline 201

Zinc Oxide

Acute toxicity to fish	Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species). LC50, Danio rerio (zebra fish), static test, 96 Hour, 1.55 mg/l
Acute toxicity to aquatic invertebrates	EC50, Daphnia magna (Water flea), 48 Hour, 0.481 mg/l
Acute toxicity to algae/aquatic plants	IC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0.136 mg/l NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0.024 mg/l
Chronic toxicity to fish	NOEC, Danio rerio (zebra fish), 32 d, mortality, >= 0.540 mg/l
Chronic toxicity to aquatic invertebrates	NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.058 mg/l

Persistence and degradability

White mineral oil (petroleum)

Biodegradability:	Not readily biodegradable. Information given is based on data obtained from similar substances.
Biodegradation:	31 %
Exposure time:	28 d
Method:	OECD Test Guideline 301F
Theoretical Oxygen Demand:	3.50 mg/mg
Photodegradation	
Test Type:	Half-life (indirect photolysis)
Sensitization:	OH radicals

Atmospheric half-life:	1.291 d
Method:	Estimated.

Aluminum hydroxide benzoate stearate

Biodegradability:	Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. For similar material(s): 10-day Window: Pass
Biodegradation:	79 %
Exposure time:	28 d
Method:	OECD Test Guideline 301B

Zinc Oxide

Biodegradability:	Biodegradation is not applicable.

Bioaccumulative potential

White mineral oil (petroleum)

Bioaccumulation:	Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient:	**n-octanol/water(log Pow):** 5.18 Measured

Aluminum hydroxide benzoate stearate

Bioaccumulation:	No relevant data found.

Zinc Oxide

Bioaccumulation:	Partitioning from water to n-octanol is not applicable.

Mobility in soil

White mineral oil (petroleum)	Potential for mobility in soil is low (Koc between 500 and 2000). **Partition coefficient** (Koc)**:** 510 Estimated.
Aluminum hydroxide benzoate stearate	No relevant data found.
Zinc Oxide	No data available.

Section 13 – Disposal Consideration

Disposal instructions:	DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15
Treatment and disposal methods of used packaging:	Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

Section 14 – Transportation Information

TDG	Not regulated for transport
Classification for SEA transport (IMO-IMDG):	Not regulated for transport
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk
Classification for AIR transport (IATA/ICAO):	Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15 – Regulatory Information

Canadian Domestic Substances List (DSL)	All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Section 16 – Other Information

Prepared by:..... Ridge Tool Company

OPSTD 6-312

Revision ..... B

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