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ECTION	1. IDENTIFICATION				
Produ	ct name	: Shel	Shell Gadus S5 V460 1.5		
Produ	ct code	: 001[D8441		
Manufacturer or supplier's d		details			
Manufacturer/Supplier		400 Calg	: Shell Canada Products 400 - 4th Avenue S.W Calgary AB T2P 0J4 Canada		
Telephone Telefax		· · ·	(+1) 8006611600 (+1) 4033848345		
Emerç ber	gency telephone num-	UTE	C (226-8832 MTREC (24	r): (+1) 613-996-6666; Toll Free: 1-888-CAN-) hr): 1 (703) 527-3887 or 1 (800) 424-9300	
	mmended use of the c		and restricti		

Recommended use : Automotive and industrial grease.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification Chronic aquatic toxicity	: Category 3
GHS label elements	
Hazard pictograms	: No Hazard Symbol required
Signal word	: No signal word
Hazard statements	 PHYSICAL HAZARDS: Not classified as a physical hazard under GHS criteria. HEALTH HAZARDS: Not classified as a health hazard under GHS criteria. ENVIRONMENTAL HAZARDS: H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	 Prevention: P273 Avoid release to the environment. Response: No precautionary phrases.
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Storage:

No precautionary phrases. **Disposal:** P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis. Used grease may contain harmful impurities.

High-pressure injection under the skin may cause serious damage including local necrosis. Not classified as flammable but will burn.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	:	Shell Gadus S5 V460 1.5

Chemical nature : A lubricating grease containing polyolefins and additives.

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Zinc dialkyl dithiophosphate	68649-42-3	1 - 3
Alkyl amine	Not Assigned	0.1 - 0.99
Calcium alkaryl sulphonate	Not Assigned	0.1 - 0.99

SECTION 4. FIRST-AID MEASURES

General advice	Not expected to be a health hazard when used unde conditions.	er normal
If inhaled	No treatment necessary under normal conditions of If symptoms persist, obtain medical advice.	use.
In case of skin contact	Remove contaminated clothing. Flush exposed area ter and follow by washing with soap if available. If persistent irritation occurs, obtain medical attentio	
	When using high pressure equipment, injection of p under the skin can occur. If high pressure injuries of casualty should be sent immediately to a hospital. D for symptoms to develop. Obtain medical attention even in the absence of app wounds.	ccur, the to not wait
In case of eye contact	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attentio	n.
If swallowed	In general no treatment is necessary unless large quare swallowed, however, get medical advice.	uantities

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	mportant symptoms ffects, both acute and ed	of black pustu Ingestion may Local necrosis	ulitis signs and symptoms may include formation les and spots on the skin of exposed areas. result in nausea, vomiting and/or diarrhoea. s is evidenced by delayed onset of pain and e a few hours following injection.	
Protection of first-aiders		appropriate pe	: When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.	
Notes	to physician	: Treat symptor	natically.	
		vention an d p age and loss of Because entry ousness of the determine the anaesthetics of can contribute surgical decor eign material s	injection injuries require prompt surgical inter- ossibly steroid therapy, to minimise tissue dam- of function. Wounds are small and do not reflect the seri- e underlying damage, surgical exploration to extent of involvement may be necessary. Local or hot soaks should be avoided because they to swelling, vasospasm and ischaemia. Prompt inpression, debridement and evacuation of for- should be performed under general anaesthet- exploration is essential.	

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon diox- ide, sand or earth may be used for small fires only.	
Unsuitable extinguishing media	:	Do not use water in a jet.	
Specific hazards during fire- fighting	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.	
Specific extinguishing meth- ods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment.	
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).	

SECTION 6. ACCIDENTAL RELEASE MEASURES

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Personal precautions, protec- tive equipment and emer- gency procedures		- : Avoid contact w	Avoid contact with skin and eyes.		
Environmental precautions		nation. Prevent	: Use appropriate containment to avoid environmental contami- nation. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.		
	ethods and materials for ontainment and cleaning up		uitable clearly marked container for disposal or accordance with local regulations.		
Additional advice		see Chapter 8 d	n selection of personal protective equipment of this Safety Data Sheet. n disposal of spilled material see Chapter 13 of a Sheet.		

SECTION 7. HANDLING AND STORAGE

General Precautions	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning mate- rials in order to prevent fires.
Avoidance of contact	:	Strong oxidising agents.
Storage Other data	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Store at ambient temperature.
Packaging material	:	Suitable material: For containers or container linings, use mild steel or high density polyethylene. Unsuitable material: PVC.
Container Advice	:	Polyethylene containers should not be exposed to high tem- peratures because of possible risk of distortion.

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SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures

: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information: Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and

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			ment to remove contaminants. Discard con- ng and footwear that cannot be cleaned. busekeeping.
			ict's semi-solid consistency, generation of is unlikely to occur.
Perso	onal protective equipn	nent	
	iratory protection	No respiratory pro- conditions of use In accordance we tions should be to If engineering con- tions to a level we select respiratory cific conditions of Check with respin Where air-filtering priate combinations Select a filter sub-	rotection is ordinarily required under normal e. ith good industrial hygiene practices, precau- taken to avoid breathing of material. ontrols do not maintain airborne concentra- which is adequate to protect worker health, y protection equipment suitable for the spe- if use and meeting relevant legislation. iratory protective equipment suppliers. In g respirators are suitable, select an appro- ton of mask and filter. itable for the combination of organic gases ype A/Type P boiling point >65°C (149°F)].
	I protection emarks	gloves approved US: F739) made suitable chemica gloves Suitability usage, e.g. frequ sistance of glove glove suppliers. Personal hygien Gloves must only gloves, hands sh cation of a non-p For continuous of through time of r 480 minutes whe short-term/splast recognize that su may not be avail time maybe acce and replacement a good predictor dependent on th Glove thickness	tact with the product may occur the use of to relevant standards (e.g. Europe: EN374, from the following materials may provide al protection. PVC, neoprene or nitrile rubber and durability of a glove is dependent on uency and duration of contact, chemical re- ematerial, dexterity. Always seek advice from Contaminated gloves should be replaced. e is a key element of effective hand care. y be worn on clean hands. After using hould be washed and dried thoroughly. Appli- perfumed moisturizer is recommended. contact we recommend gloves with break- more than 240 minutes with preference for > ere suitable gloves can be identified. For h protection we recommend the same, but uitable gloves offering this level of protection able and in this case a lower breakthrough eptable so long as appropriate maintenance t regimes are followed. Glove thickness is not of glove resistance to a chemical as it is e exact composition of the glove material. should be typically greater than 0.35 mm e glove make and model.
Eye p	protection		dled such that it could be splashed into eyes, ear is recommended.

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Skin and body protection		 Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves. 			
Thermal hazards		: Not applicable	: Not applicable		
Protective measures			: Personal protective equipment (PPE) should meet recom- mended national standards. Check with PPE suppliers.		

Environmental exposure controls

General advice	 Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Semi-solid at ambient temperature.	
Colour	: light brown	
Odour	: Slight hydrocarbon	
Odour Threshold	: Data not available	
рН	: Not applicable	
Drop point	: 260 °C / 500 °F Method: IP 396	
Initial boiling point and boiling range	: Data not available	
Flash point	: Method: ASTM D92	
Evaporation rate	: Data not available	
Flammability (solid, gas)	: Data not available	
Upper explosion limit	: Typical 10 %(V)	
Lower explosion limit	: Typical 1 %(V)	

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Vapour pressure		:	< 0.5 Pa (20 °C / 68 °F) estimated value(s)			
Relative vapour density		:	> 1 estimated value(s)			
R	Relativo	e density	:	0.900 (15 °C / 59 °F)		
C	Density	,	:	900 kg/m3 (15.0	°C / 59.0 °F)Method: Unspecified	
S	Solubili Wate	ty(ies) er solubility	:	negligible		
	Solu	bility in other solvents	:	Data not available		
Partition coefficient: n- octanol/water		:	Pow: > 6 (based on information on similar products)			
Auto-ignition temperature		:	> 320 °C / 608 °F			
Viscosity Viscosity, dynamic		:	Data not availab	e		
	Viscosity, kinematic		:	460 mm2/s (40.0 °C / 104.0 °F) Method: ASTM D445		
				45 mm2/s (100 ° Method: ASTM [
E	Explosive properties		:	Not classified		
C	Dxidiziı	ng properties	:	Data not available		
C	Conduc	ctivity	:	This material is not expected to be a static accumulator.		
Decomposition temperature		:	Data not available			

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: Stable.
Possibility of hazardous reac- tions	: Reacts with strong oxidising agents.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Strong oxidising agents.
Hazardous decomposition products	: Hazardous decomposition products are not expected to form during normal storage.

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SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on data on the components and the toxicology of similar products.Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Product:	
Acute oral toxicity	: LD50 (rat): > 5,000 mg/kg Remarks: Expected to be of low toxicity:
Acute inhalation toxicity	: Remarks: Not considered to be an inhalation hazard under normal conditions of use.
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg Remarks: Expected to be of low toxicity:

Skin corrosion/irritation

Product:

Remarks: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be slightly irritating.

Components:

Zinc dialkyl dithiophosphate:

Remarks: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not expected to be a skin sensitiser.

Germ cell mutagenicity

Product:

Genotoxicity in vivo	:	Remarks: Not considered a mutagenic hazard.
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Carcinogenicity

Product:

Remarks: Not expected to be carcinogenic.

Reproductive toxicity

Product:

Effects on fertility

Remarks: Not expected to impair fertility. Not expected to be a developmental toxicant.

STOT - single exposure

Product:

Remarks: Not expected to be a hazard.

STOT - repeated exposure

Product:

Remarks: Not expected to be a hazard.

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Further information

Product:

Remarks: Used grease may contain harmful impurities that have accumulated during use. The concentration of such harmful impurities will depend on use and they may present risks to health and the environment on disposal.

ALL used grease should be handled with caution and skin contact avoided as far as possible.

Remarks: High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

Remarks: Slightly irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment	 Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representa- tive of the product as a whole, rather than for individual com- ponent(s).(LL/EL/IL50 expressed as the nominal amount of
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			product required	to prepare aqueous test extract).	
Ecoto	oxicity				
Prod	uct:				
Toxicity to fish (Acute toxici- ty)		:	Remarks: Expect LL/EL/IL50 10-10		
	Toxicity to crustacean (Acute toxicity)		Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l		
	ity to algae/aquatic s (Acute toxicity)	:	Remarks: Expected to be harmful: LL/EL/IL50 10-100 mg/l		
Toxic icity)	ity to fish (Chronic tox-	:	Remarks: Data no	ot available	
	ity to crustacean	:	Remarks: Data no	ot available	
Toxic	nic toxicity) ity to microorganisms e toxicity)	:	Remarks: Data not available		
Persi	stence and degradabili	ity			
Prod	uct:				
Biodegradability		:	Major constituent	ed to be not readily biodegradable. s are expected to be inherently biodegrada- components that may persist in the environ-	
Bioad	ccumulative potential				
Prod	uct:				
	cumulation	ion : Remarks: Contains co cumulate.		ns components with the potential to bioac-	
Partition coefficient: n- octanol/water		:	Pow: > 6 Remarks: (based	on information on similar products)	
Mobi	lity in soil				
Prod	u <u>ct:</u>				
Mobility		:		olid under most environmental conditions. will adsorb to soil particles and will not be	
			Remarks: Floats	on water.	

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	Produ	onal ecological infor-	expected to be re Not expected to cal ozone creation Poorly soluble m	ture of non-volatile components, which are not eleased to air in any significant quantities. have ozone depletion potential, photochemi- on potential or global warming potential. ixture. ical fouling of aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	
Waste from residues	 Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses
Contaminated packaging	: Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local legislation Remarks	: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

TDG

Not regulated as a dangerous good

International Regulation

IATA-DGR

Not regulated as a dangerous good

IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category	: Not applicable
Ship type	: Not applicable
Product name	: Not applicable

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Special precautions Special precautions for user		: Not applicable	
Remarks		: Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.	
Additional Information		: MARPOL Annex 1 rules apply for bulk shipments by sea.	

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 Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

The components of this product are reported in the following inventories:				
EINECS	: All components listed or polymer exempt.			
TSCA	: All components listed.			
DSL	: All components listed.			

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN -Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide: GHS - Globally Harmonized System: GLP - Good Laboratory Practice: IARC - International Agency for Research on Cancer: IATA - International Air Transport Association: IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China: IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC -No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of

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Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS -Workplace Hazardous Materials Information System

A vertical bar (|) in the left margin indicates an amendment from the previous version. Revision Date : 2016-05-23

The information provided in this Safety Data Sheet 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 a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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