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# 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Shell Gadus S2 V100 3

Product code : 001D8464

Manufacturer or supplier's details

Manufacturer/Supplier : Shell India Markets Private Limited

(U23201TN2004PTC053147) 2nd Floor, Campus 4A RMZ Millenia Park

143 Dr. MGR Road, Perungudi

CHENNAI 600096 India

Telephone : (+91) 04443450000 Telefax : (+91) 04443451516

Emergency telephone : +91 22 6516 1058

number

Recommended use of the chemical and restrictions on use

Recommended use : Automotive and industrial grease.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : A lubricating grease containing highly-refined mineral oils and

additives.

The highly refined mineral oil contains <3% (w/w) DMSO-

extract, according to IP346.

## **Hazardous components**

Chemical name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Alkylene-bis- (dialkyldithiocarbamat e)	10254-57-6	R53	Aquatic Chronic 4; H413	1 - 3
Zinc naphthenate	12001-85-3	Xi-N; R38- R50/53	Skin Irrit. 2; H315 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0.25 - 2.4
Triazole derivative	91273-04-0	C-Xi-N; R34- R43-R50/53	Skin Corr. 1B; H314 Skin Sens. 1A; H317 Aquatic Chronic 1;	0.01 - 0.09

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H410

For explanation of abbreviations see section 16.

#### 3. HAZARDS IDENTIFICATION

## Classification (REGULATION (EC) No 1272/2008)

Chronic aquatic toxicity : Category 3

Label elements

Hazard pictograms : No Hazard Symbol required

Signal word : No signal word

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard according to CLP criteria.

**HEALTH HAZARDS:** 

Not classified as a health hazard under CLP 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.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Sensitising components : Contains triazole derivatives.

May produce an allergic reaction.

#### Other hazards

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.

## 4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal

conditions.

If inhaled : No treatment necessary under normal conditions of use.

If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with

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water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop

for symptoms to develop.

Obtain medical attention even in the absence of apparent

wounds.

In case of eye contact : Flush eye with copious quantities of water.

Remove contact lenses, if present and easy to do. Continue

rinsing.

If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities

are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed

: Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

Local necrosis is evidenced by delayed onset of pain and

tissue damage a few hours following injection.

Protection of first-aiders : 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 symptomatically.

High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue

damage and loss of function.

Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general

## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon

dioxide, sand or earth may be used for small fires only.

anaesthetics, and wide exploration is essential.

Unsuitable extinguishing

media

: Do not use water in a jet.

Specific hazards during

firefighting

: Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

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gases (smoke).

Carbon monoxide may be evolved if incomplete combustion

occurs.

Unidentified organic and inorganic compounds.

Specific extinguishing

methods

: Use extinguishing measures that are appropriate to local

circumstances 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).

# 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Environmental precautions : Avoid contact with skin and eyes.

: Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate

barriers.

Methods and materials for containment and cleaning up

: Shovel into a suitable clearly marked container for disposal or

reclamation in accordance with local regulations.

Additional advice : For guidance on selection of personal protective equipment

see Chapter 8 of this Safety Data Sheet.

For guidance on disposal of spilled material see Chapter 13 of

this Safety Data Sheet.

#### 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

materials in order to prevent fires.

Avoidance of contact : Strong oxidising agents.

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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

temperatures because of possible risk of distortion.

#### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

## Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	IN OEL
Oil mist, mineral	Not Assigned	STEL (Mist)	10 mg/m3	IN OEL
Oil mist, mineral	Not Assigned	TWA ((inhalable fraction))	5 mg/m3	US. ACGIH Threshold Limit Values
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	India. Permissible levels of certain chemical substances in work environment.
Oil mist, mineral	Not Assigned	(Mist)	10 mg/m3	India. Permissible levels of certain chemical substances in work environment.
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	OSHA Z-1
	Not Assigned	TWA (Inhalable fraction)	5 mg/m3	ACGIH

## **Biological occupational exposure limits**

No biological limit allocated.

## **Monitoring Methods**

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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 protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Due to the product's semi-solid consistency, generation of mists and dusts is unlikely to occur.

## Personal protective equipment

#### Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

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Respiratory protection

: No respiratory protection is ordinarily required under normal conditions of use.

In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne

concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point >65°C (149°F)].

Hand protection Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection : If material is handled such that it could be splashed into eyes,

protective eyewear is recommended.

: Skin protection is not ordinarily required beyond standard Skin and body protection

work clothes.

It is good practice to wear chemical resistant gloves.

Thermal hazards : Not applicable

**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

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> 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

: Semi-solid at room temperature. **Appearance** 

Colour : light brown

Odour Slight hydrocarbon Odour Threshold : Data not available Ηq : Not applicable

Drop point : 180 °C / 356 °FMethod: IP 396

Initial boiling point and boiling : Data not available

Flammability (solid, gas)

range

: Data not available

: Not applicable Flash point Evaporation rate Data not available

Upper explosion limit : Typical 10 %(V)

Lower explosion limit : Typical 1 %(V)

: < 0.5 Pa (20 °C / 68 °F) Vapour pressure

estimated value(s)

Relative vapour density : > 1estimated value(s) Relative density : 0.900 (15 °C / 59 °F)

Density 900 kg/m3 (15.0 °C / 59.0 °F)

Method: Unspecified

Solubility(ies)

Water solubility : negligible

Solubility 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

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Viscosity, dynamic : Data not available
Viscosity, kinematic : Not applicable
Explosive properties : Not classified

Oxidizing properties : Data not available

Conductivity : This material is not expected to be a static accumulator.

Decomposition temperature : Data not available

#### 10. STABILITY AND REACTIVITY

Reactivity : The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

Chemical stability : Stable.

Possibility of hazardous

reactions

: 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.

#### 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.

#### **Acute toxicity**

**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:

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## 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.

## Respiratory or skin sensitisation

#### **Product:**

Remarks: Not expected to be a skin sensitiser.

## **Components:**

#### Triazole derivative:

Remarks: May cause an allergic skin reaction in sensitive individuals.

# Germ cell mutagenicity

## **Product:**

Remarks: Not considered a mutagenic hazard.

# Carcinogenicity

#### **Product:**

Remarks: Not expected to be carcinogenic.

Remarks: Product contains mineral oils of types shown to be non-carcinogenic in animal skinpainting studies., Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

Material	GHS/CLP Carcinogenicity Classification
Highly refined mineral oil	No carcinogenicity classification.

# Reproductive toxicity

## **Product:**

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

## STOT - single exposure

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#### **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.

## 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 representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test

extract).

# **Ecotoxicity**

#### **Product:**

Toxicity to fish (Acute

toxicity) Remarks: Expected to be harmful:

LL/EL/IL50 10-100 mg/l

Toxicity to crustacean (Acute

toxicity)

Remarks: Expected to be harmful:

LL/EL/IL50 10-100 mg/l

Toxicity to algae/aquatic

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plants (Acute toxicity) Remarks: Expected to be harmful:

LL/EL/IL50 10-100 mg/l

Toxicity to fish (Chronic

toxicity)

: Remarks: Data not available

Toxicity to crustacean

(Chronic toxicity)

: Remarks: Data not available

Toxicity to microorganisms

(Acute toxicity)

: Remarks: Data not available

**Components:** 

Zinc naphthenate:

M-Factor : 1

Triazole derivative:

M-Factor : 1

Persistence and degradability

**Product:** 

Biodegradability : Remarks: Expected to be not readily biodegradable., Major

> constituents are expected to be inherently biodegradable, but contains components that may persist in the environment.

Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Contains components with the potential to

bioaccumulate.

Partition coefficient: n-

octanol/water

: Pow: > 6Remarks: (based on information on similar products)

Mobility in soil

**Product:** 

Mobility : Remarks: Semi-solid under most environmental conditions., If

it enters soil, it will adsorb to soil particles and will not be

mobile.

Remarks: Floats on water.

Other adverse effects

no data available

**Product:** 

Additional ecological

information

: Product is a mixture of non-volatile components, which are not

expected to be released to air in any significant quantities., Not expected to have ozone depletion potential,

photochemical ozone creation potential or global warming

potential.

Poorly soluble mixture., May cause physical fouling of aquatic

organisms.

Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

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#### 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

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste.

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.

#### 14. TRANSPORT INFORMATION

#### **International Regulations**

**ADR** 

Not regulated as a dangerous good

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

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

## Special precautions for user

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.

#### 15. REGULATORY INFORMATION

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

The Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 (amended version issued 2000). The Factories Act, 1948, The Second Schedule: Permissible levels of certain chemical substances in work environment, as amended through 1987. India Central motor Vehicles (Amendment) Rules 1993.

## Other international regulations

## The components of this product are reported in the following inventories:

EINECS : All components listed or polymer exempt.

TSCA : All components listed.

#### **16. OTHER INFORMATION**

## **Full text of R-Phrases**

R34 Causes burns.
R38 Irritating to skin.

R43 May cause sensitisation by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in

the aquatic environment.

R53 May cause long-term adverse effects in the aquatic environment.

#### **Full text of H-Statements**

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.
 H413 May cause long lasting harmful effects to aquatic life.

# Full text of other abbreviations

Aquatic Acute Acute aquatic toxicity
Aquatic Chronic Chronic aquatic toxicity

Skin Corr. Skin corrosion
Skin Irrit. Skin irritation
Skin Sens. Skin sensitisation

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this

document can be looked up in reference literature (e.g.

scientific dictionaries) and/or websites.

SDS Regulation : Regulation 1907/2006/EC

**Further information** 

Training advice : Provide adequate information, instruction and training for

operators.

Other information : A vertical bar (|) in the left margin indicates an amendment

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from the previous version.

Sources of key data used to compile the Safety Data Sheet

: The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.